

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER:

IRAN ALLOY STEEL CO.

CONTRACTOR:

ISATIS MATIN TARH CO.



<i>Document NO.</i>	<i>BM61843</i>
<i>TITLE :</i>	<i>COMPLETE LADLE ASSEMBLY 100 TON SM2</i>
<i>IASCO CODE :</i>	<i>3803050039</i>
<i>REF CODE:</i>	<i>-</i>

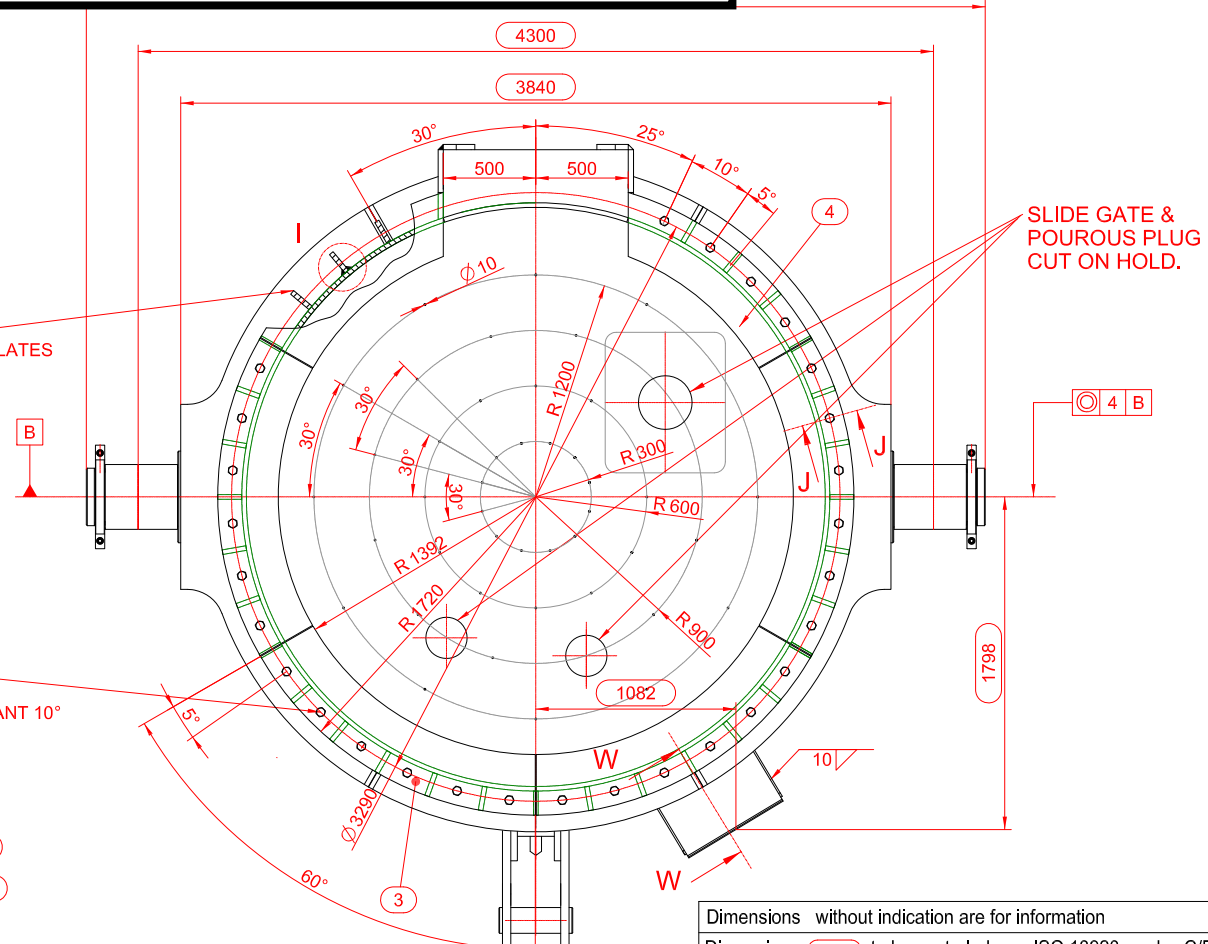
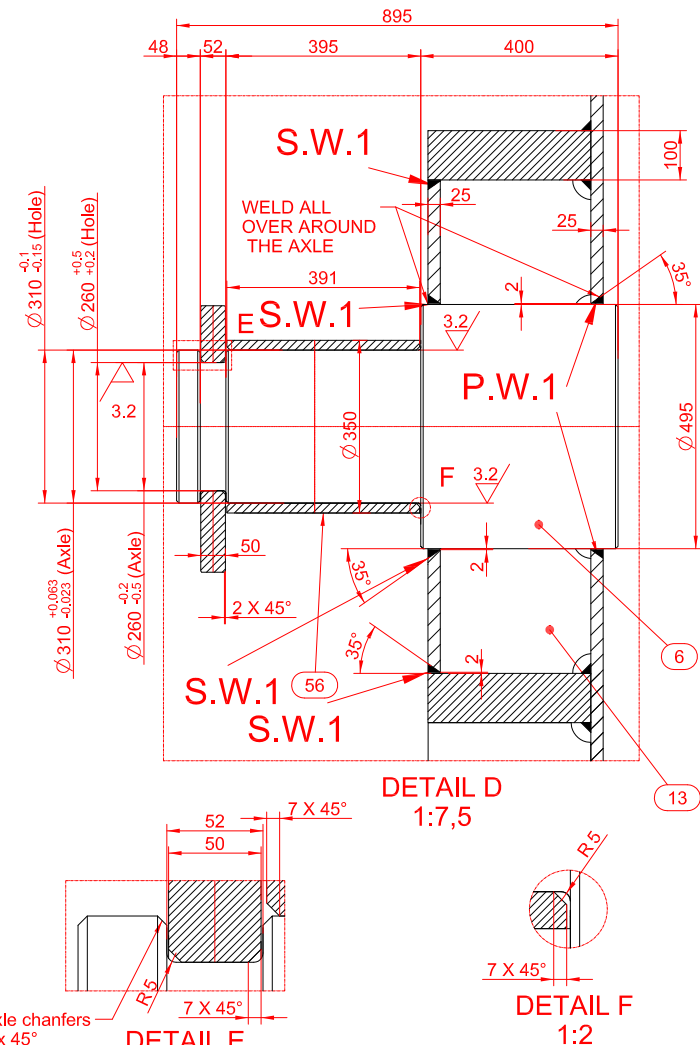
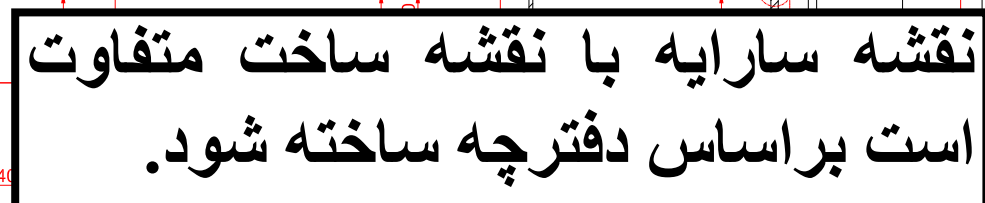
TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

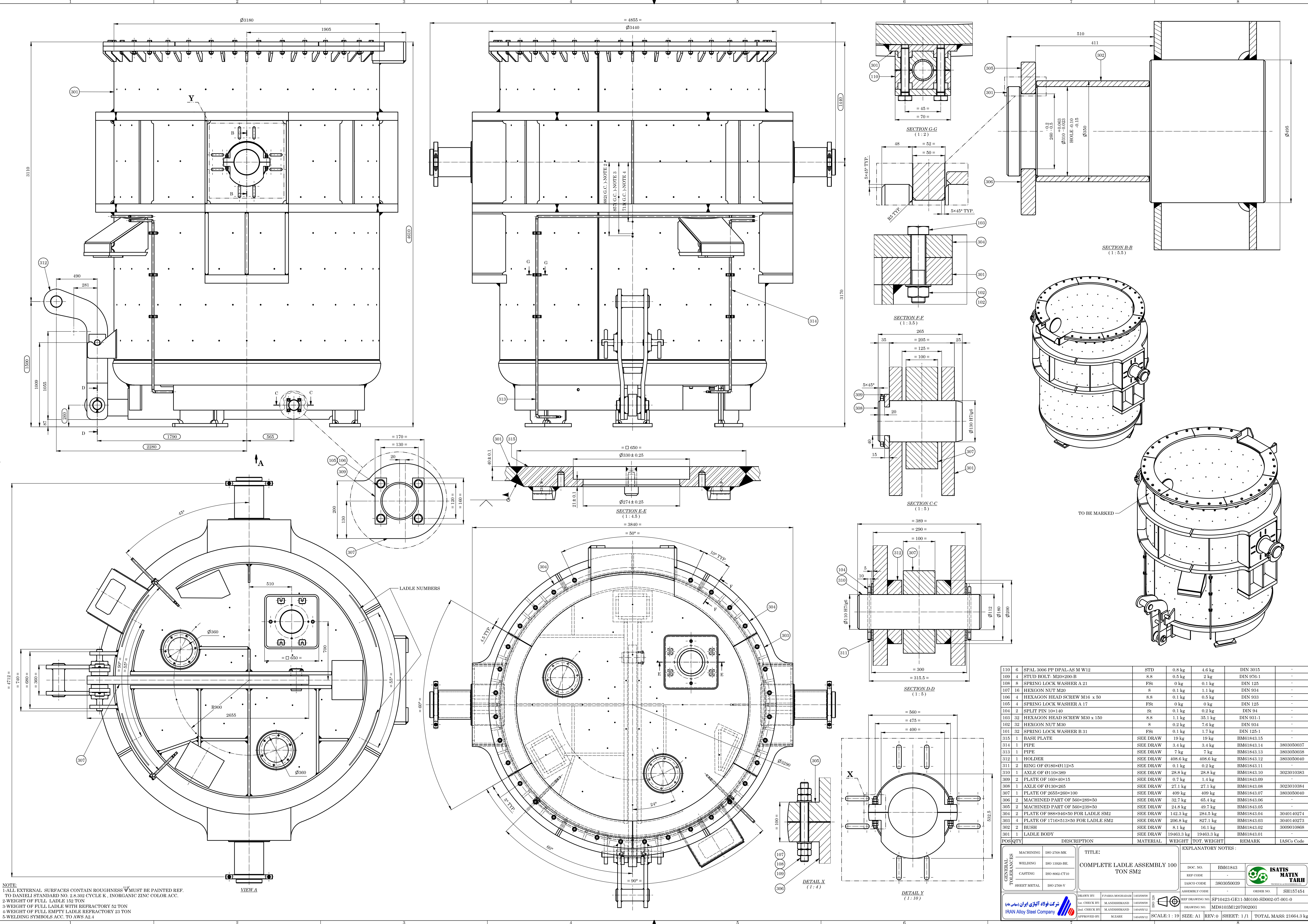
فهرست مندرجات :

۱	اطلاعات فنی ساخت
	- عکس قطعه یا تجهیز - نقشه ساخت - دستورالعمل جوشکاری (WPS)
۲	اطلاعات مواد اولیه
۳	بازرسی فنی و ابزار آلات اندازه گیری
۴	بسته بندی و انبارداری
۵	نمای سه بعدی (3D PDF)





7	17/03/2016	UPDATED BUSH AND CONTROL PLAN.	A. Izaga	M.A. Irlarte	M.A. Irlarte
6	17/04/2015	MODIFICATIONS ACCORDING TO EMAIL E0849	A. Ezaguirre	A. Ezaguirre	M.A. Irlarte
5	07/01/2015	ADD GRAVITY CENTRE POINTS	I. Anola	A. Ezaguirre	M.A. Irlarte
4	18/11/2014	Lifting and supporting points changed.Slide gate,pourus plug and argon coupling moved	A. Izaga	A. Ezaguirre	M.A. Irlarte
3	07/02/2014	DETAIL ENGINEERING	18/11/2014	18/11/2014	18/11/2014
1	24/09/2013	First Issue	A. Izaga	M.A. Irlarte	M.A. Irlarte
			07/02/2014	07/02/2014	07/02/2014
			X. Arizcubaga	A. Ezaguirre	M.A. Irlarte
Rev.	Date	Revisions description	Drawn by	Verified by	Reviewed by
 IASCO IRAN ALLOY STEEL CO. YAZD - IRAN			APPROVED (Stamp)		
Owner Engineering  BARSOO ENGINEERING CO.					
CONSORTIUM					
Project Name					
YAZD 1 STEEL MAKING PLANT					
			Job nr SP10423 Obtained from Replaces		
			Family code/Machine code		
			Weight (Kg)		J (Kg/m ²)
4100 - AUX LADLE ASSEMBLY					
100Tn LADLE ASSEMBLY					
ASSEMBLY					Scale 1:30
SARRALLE Shop number			Revision 07		Format
10423.4100.01.000					Nr. of sheets 4
OWNER dwg number			Revision 07		Sheet 1 Follow
SP10423-GE11-M0100-SD002-07_001					
SP10423-GE11-M0100-SD002-07_001					



NOTE:
1-ALL EXTERNAL SURFACES CONTAIN ROUGHNESS $\sqrt{R}$ MUST BE PAINTED REF. TO DANIELI STANDARD NO. 2.8.302 CYCLE K, INORGANIC ZINC COLOR ACC.
2-WEIGHT OF FULL LADLE 152 TON
3-WEIGHT OF FULL LADLE WITH REFRACTORY 52 TON
4-WEIGHT OF FULL EMPTY LADLE REFRACTORY 25 TON
5-WELDING SYMBOLS ACC. TO AWS A2.4

110	6	SPAL 3006 PP DPALAS M W12	STD	0.8 kg	4.6 kg	DIN 9015	-
109	4	STUD BOLT M20x200-B	8.8	0.5 kg	2 kg	DIN 976-1	-
108	8	SPRING LOCK WASHER A 21	FSt	0 kg	0.1 kg	DIN 125	-
107	16	HEXAGON NUT M20	8	0.1 kg	1.1 kg	DIN 934	-
106	4	HEXAGON HEAD SCREW M16 x 50	8.8	0.1 kg	0.5 kg	DIN 933	-
105	4	SPRING LOCK WASHER A 17	FSt	0 kg	0 kg	DIN 125	-
104	2	SPLIT PIN 10x140	St	0.1 kg	0.2 kg	DIN 94	-
103	32	HEXAGON HEAD SCREW M30 x 150	8.8	1.1 kg	35.1 kg	DIN 931-1	-
102	32	HEXAGON NUT M30	8	0.2 kg	7.6 kg	DIN 934	-
101	32	SPRING LOCK WASHER B 31	FSt	0.1 kg	1.7 kg	DIN 125-1	-
315	1	BASE PLATE	SEE DRAW	19 kg	19 kg	BM61843.15	-
314	1	PIPE	SEE DRAW	3.4 kg	3.4 kg	BM61843.14	3803050037
313	1	PIPE	SEE DRAW	7 kg	7 kg	BM61843.13	3803050038
312	1	HOLDER	SEE DRAW	408.6 kg	408.6 kg	BM61843.12	3803050040
311	2	RING OF Ø180xØ112x5	SEE DRAW	0.1 kg	0.2 kg	BM61843.11	-
310	1	AXLE OF Ø110x389	SEE DRAW	28.8 kg	28.8 kg	BM61843.10	3023010383
309	2	PLATE OF 160x40x15	SEE DRAW	0.7 kg	1.4 kg	BM61843.09	-
308	1	AXLE OF Ø130x265	SEE DRAW	27.1 kg	27.1 kg	BM61843.08	3023010384
307	1	PLATE OF 2655x260x100	SEE DRAW	409 kg	409 kg	BM61843.07	3803050040
306	2	MACHINED PART OF 560x289x50	SEE DRAW	32.7 kg	65.4 kg	BM61843.06	-
305	2	MACHINED PART OF 560x239x50	SEE DRAW	24.8 kg	49.7 kg	BM61843.05	-
304	2	PLATE OF 988x946x50 FOR LADLE SM2	SEE DRAW	142.3 kg	284.5 kg	BM61843.04	3040140274
303	4	PLATE OF 1716x513x50 FOR LADLE SM2	SEE DRAW	206.8 kg	827.1 kg	BM61843.03	3040140273
302	2	BUSH	SEE DRAW	8.1 kg	16.1 kg	BM61843.02	3009010868
301	1	LADLE BODY	SEE DRAW	19463.3 kg	19463.3 kg	BM61843.01	-
POS/QTY	DESCRIPTION		MATERIAL	WEIGHT	TOT. WEIGHT	REMARK	IASCc Code
GENERAL TOLERANCES	MACHINING		ISO 2768-MK		TITLE:		
	WELDING		ISO 13920-BE		COMPLETE LADLE ASSEMBLY 100		
	CASTING		ISO 8062-CT10		TON SM2		
	SHEET METAL		ISO 2768-V		DRAWN BY: F.FARSA MOGHADAM 14030908		
					1st. CHECK BY: MANDISHMAND 14030908		
				2nd. CHECK BY: MANDISHMAND 14040212			
				APPROVED BY: M.ZARE 14040212			
				SCALE: 1 : 19			
				SIZE: A1			
				REV: 0			
				SHEET: 1 / 1			
				TOTAL MASS: 21664.3 kg			

▪ OBJECT

This specification defines the Design and Non Destructive Test (NDT) criteria for Structure, Equipments and Machinery weldments, designed by Sarralle Engineering department, others not covered in "EN 13445 Unfired pressure vessels".

This specification also states the acceptance criteria for each type of welding.

▪ STANDARD REFERENCES

The following standards have been taken like a guideline for the configuration of this Design criteria.

STANDARD	TITLE
AWS D14.4	Specification for Welded Joints in Machinery and Equipment Thermal Spraying
AWS A3.0	Standard Welding Terms and Definitions Including Terms for Adhesive Bonding, Brazing, Soldering, Thermal Cutting and Thermal Spraying
EN ISO 5817	Welding - Fusion-welded joints in steel, nickel, titanium and their alloys (beam welding excluded) - Quality levels for imperfections

▪ DEFINITION OF WELDING CLASS

PRIMARY WELD 1 (PW1): This covers complete and partial penetration weld joints. These weld joints apply where failure would cause a loss of the system and/or be hazardous to personnel. PW1 weld joints are highly stressed (dynamic and cyclic loading) and characterized as a single point of failure with no redundancy for the redistribution of stress into another member.

PRIMARY WELD 2 (PW2): This covers both complete and partial penetration groove weld joints and fillet weld joints. These weld joints apply where failure would reduce the overall efficiency of a system but loss of the system or a hazard to personnel would not be experienced.

SECONDARY WELD 1 (SW1): This covers both complete and partial penetration groove weld joints and fillet weld joints. These weld joints apply where failure would not affect the efficiency of a system nor create a hazard to personnel. SW1 weld joints are connections of secondary members not subject to dynamic action and/or low stressed miscellaneous applications.

SECONDARY WELD 2 (SW2): This covers weld joints applicable to welding reinforcing steel to primary structural members.

■ NDT APPLICATION PER WELDING CLASS

The NDT application criterias stated in this section are the minimum ones. The Design Engineer could define stricter levels depending of the Equipment or even specific joints.

Primary Weld	PW	MT	UT (*)	VT	REMARKS
Class I	PW1	100%	100%	100%	Referred at control plan and drawing
Class II	PW2	100%	10%	100%	Referred at control plan and drawing
(*) Only at CJP joints.					
Secondary Weld	SW	MT	UT	VT	All joints which are not indicated as PW, will be considered SW
Class III	SW1	50%	—	100%	
Class IV	SW2		—	100%	
MT can be substituted by PT.					
UT can be substituted by RT.					

■ ACCEPTANCE CRITERIA PER WELDING CLASS

The acceptance criteria stated in this section are the minimum ones. The Design Engineer could define stricter levels depending of the Equipment or even specific joints.

Primary Weld	PW	Acceptance Criteria according EN ISO 5817
Class I	PW1	Level B
Class II	PW2	Level C
Secondary Weld	SW	
Class III	SW1	Level D
Class IV	SW2	

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

بازرسی فنی :

TEST CODE	DESCRIPTION OF TEST	STD TEST	INSPECTION TYPE	REQUIRED TEST
-	Analyze of Material	Report of a valid laboratory/co.	R	
58	Visual and dimensional check	Draw& specif.	R	✓
-	Fit up	DANIELI 2.8.114 DANIELI 2.8.115	H	
40	Non-destructive examinations "NDT" (collecting) on welding's	DANIELI 2.8.114 DANIELI 2.8.115	R See Table 1	✓
30,41,42,43,44	Non-destructive examinations "NDT" (collecting) on castings	DANIELI 2.8.004 DANIELI 2.8.005 DANIELI 2.8.017	R See Table 1	
03,04,17,31	Non-destructive examinations "NDT" (collecting) on forgings and rolled bars	DANIELI 2.8.001 DANIELI 2.8.009	R See Table 1	
-	Tensile test	ISO 6892	R	
12	Metallographic structure	DANIELI 2.8.004 DANIELI 2.8.017	R	
05,06,13,14,16	Heat treatment cycle	DANIELI 2.8.300	R See Table 2	
11	Hardness measurement	DANIELI 2.8.101	R	
23	Surface hardening depth measurement	ISO 3754	R	
-	Coating	Report of a valid laboratory/co.	R See Table 3	
-	Thick. measurement of coatings	DANIELI 2.8.304 DANIELI 2.8.305	R	
57	Balancing	DANIELI 2.4.102 DANIELI 2.8.105	R	
25	Pressure leak test & proof test	DANIELI 2.8.102	R	
55	Surface Protection Inspection, Painting	DANIELI 2.8.302	R	✓
-	Packing for shipment	DANIELI 2.8.002	H	✓

TABLE 1

		% Non-destructive examinations					
		VT	DT	PT	MT	UT	RT
EDGES		✓	✓				
WELDS (For Structures)	Butt welds	✓	✓	✓	✓	✓	
	Fillet welds and/or partial penetration welds	✓	✓	✓	✓	✓	
	Fillet welds with full penetration	✓	✓	✓	✓	✓	
WELDS (For Piping Systems)	Butt welds	✓	✓				
	Fillet (socket) welds	✓	✓				
CASTING		CLASS		A	B	C	D
FORGING							

TABLE 2

hardening & tempering	Annealing	Normalizing	Quenching	Tempering	Induction hardening	Nitrating	Carburizing	Stress relieving

TABLE 3

COATING	Hard chromium plating	Chrome oxide coating	Coating powders	Zinc galvanizing	Phosphating
REQUIRED TEST					

W (Witness) : حضور و مشاهده بازرس کارفرما حین انجام فرآیند ضروری است یا بازرسی باید به طور کامل توسط بازرس کارفرما صورت گیرد .

R (Review) : بازبینی مدارک QC سازنده و کنترل رندم کفایت دارد.

H (Hold) : ادامه تولید باید با اجازه بازرس کارفرما باشد لذا جهت جلوگیری از وقفه در تولید ،قبلا" تدابیر و هماهنگی لازم صورت گیرد.

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

REQUIREMENT INSTRUMENTS					
✓	Caliper			Pitch gauge	
	Micrometer			Depth gauge	
	Bore gauge			R gauge	
	Gauge blocks			Compass	
	Protractor			Digital indicator	
✓	Meter			Gear tooth Vernier caliper	
Special instruments					

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

بسته بندی و انبار داری :

بدون بسته بندی	حمل به صورت بانديل	پايه يا پالت چوبي	کارتن	جعبه چوبي	صندوق چوبي
					
✓					

شرایط محافظت از سطوح قطعه :

سطوح ماشین کاری تلرانسی آغشته به روغن یا گریس شوند .
سطوح ماشین کاری تلرانسی با پلاستیک ضربه گیر محافظت شوند .

نکات انبارداری :

دور از تابش مستقیم نور باشد .
نگهداری در انبار رو باز بلا مانع می باشد .
قطعه شکستنی می باشد .
دور از رطوبت نگهداری شود .
جهت جابجایی فقط از مکان های مجاز قابل حمل می باشد .
ورودی و خروجی لوله ها با درپوش بسته باشد .

توضیحات :

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER:

IRAN ALLOY STEEL CO.

CONTRACTOR:

ISATIS MATIN TARH CO.



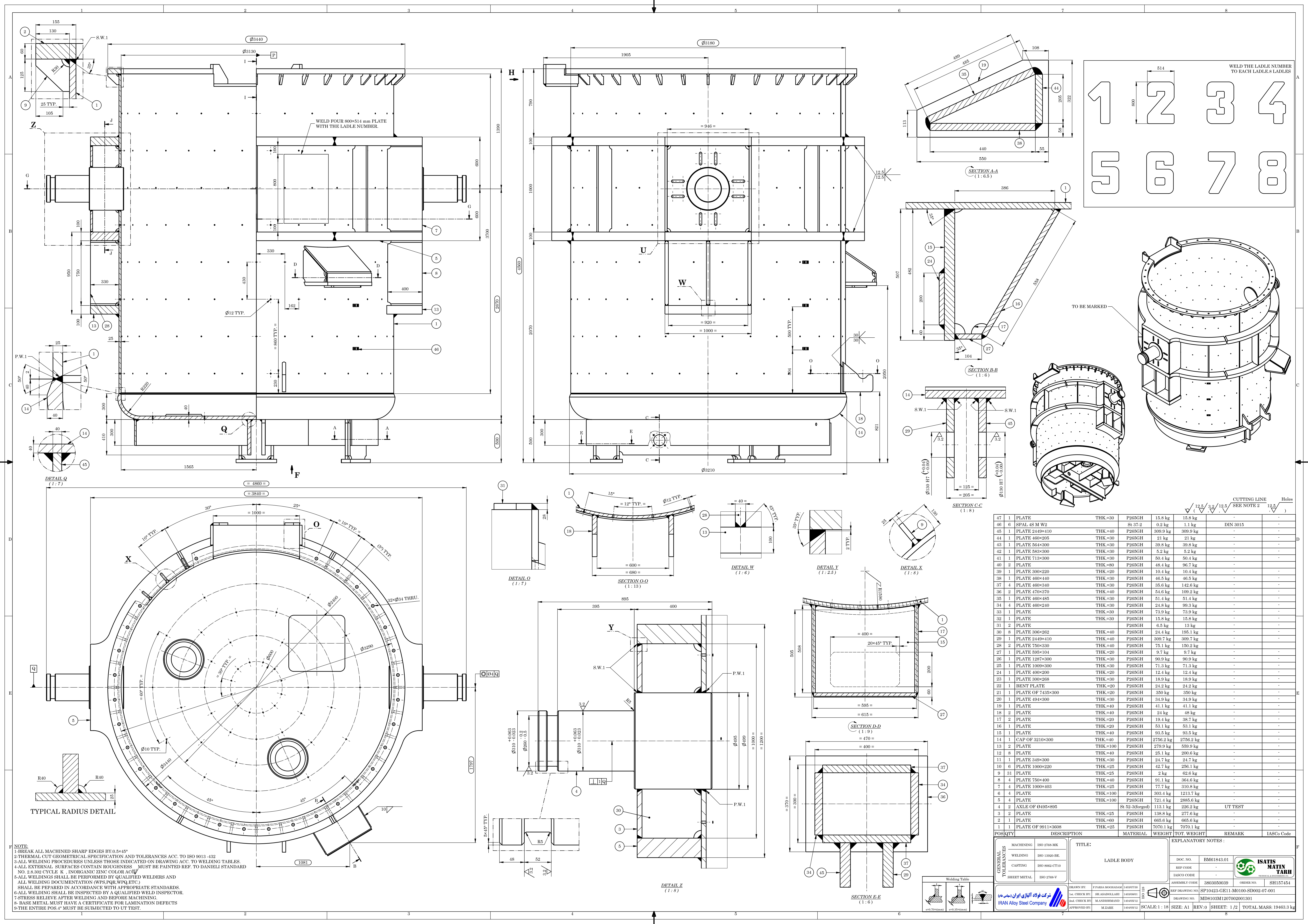
<i>Document NO.</i>	<i>BM61843.01</i>
<i>TITLE :</i>	<i>COMPLET LADLE ASSEMBLY 100 TON SM2</i>
<i>IASCO CODE :</i>	-
<i>REF CODE:</i>	-

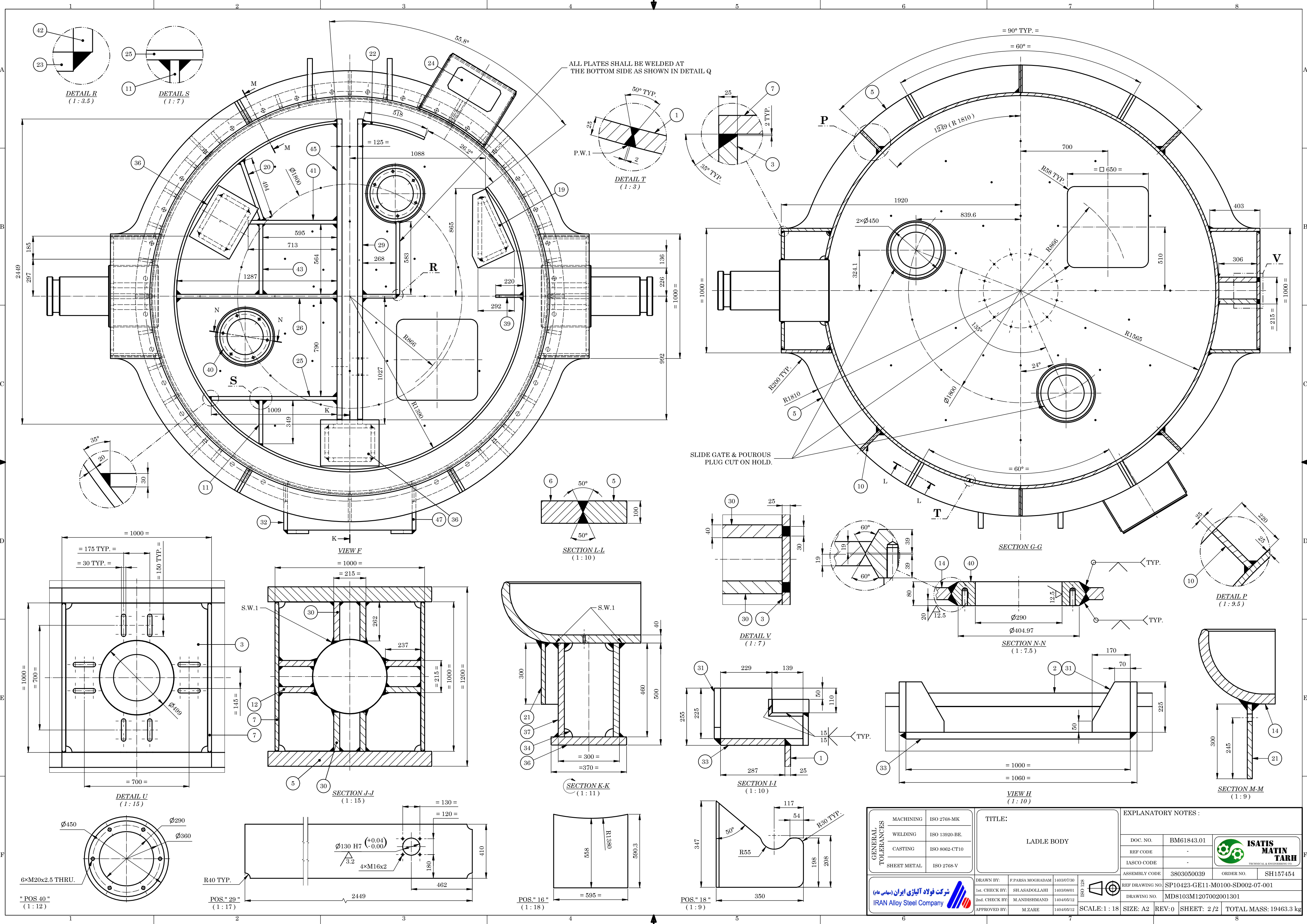
TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

فهرست مندرجات :

۱	اطلاعات فنی ساخت
	- عکس قطعه یا تجهیز - نقشه ساخت - دستورالعمل جوشکاری (WPS)
۲	اطلاعات مواد اولیه
۳	بازرسی فنی و ابزار آلات اندازه گیری
۴	بسته بندی و انبارداری
۵	نمای سه بعدی (3D PDF)





TECHNICAL SPECIFICATION DOCUMENT

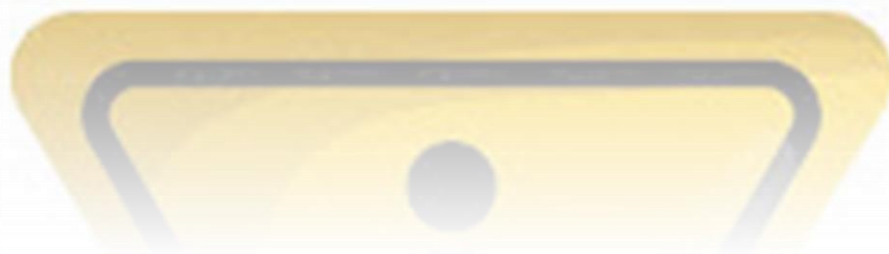
EMPLOYER: ARFA IRON & STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

نکات قابل توجه در ساخت و بازرسی:

❖ ورق قطعات نیاز به گواهی عدم Lamination defect دارد.

❖ قطعات قبل از مونتاژ باید بازرسی شوند.

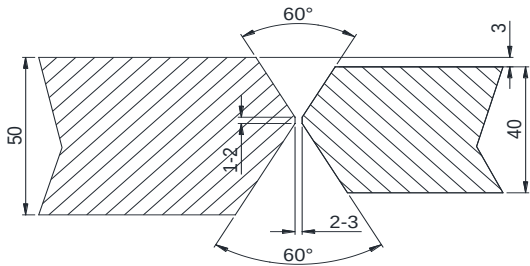
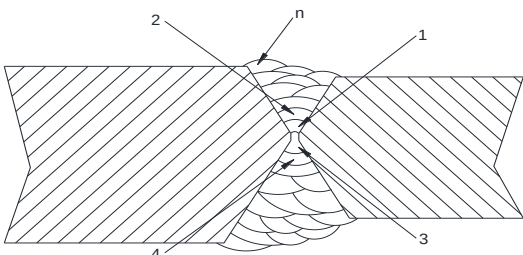
❖



 IRAN ALLOY STEEL CO.	Welding Procedure Specification (WPS)	WPS No. : B1111A0-01	
WPQR No. :	N.A	Standard:	EN ISO 15609-1
Location:	YAZD	Date/Rev.:	16-Nov-2024 / 01
Manufacturer:	IRAN ALLOY STEEL Co.	Page:	1/1

Welding process: 111 (SMAW) Mode of transfer: N.A Joint Type: Butt Weld Type: Double V Welding Position: PA Method of Preparation and Cleaning: Grinding & Brushing	Parent Material Designation (Group No.): S355JR (1.2) to S355JR (1.2) Material thickness (mm): 40 to 50 Outside Diameter (mm): N.A Throat thickness(mm): N.A
---	---

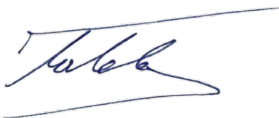
Weld Preparation Details (Sketch)*

Joint Design 	Welding Sequences 
--	--

Welding Details

Run	Welding Process	Size of Filler Material (mm)	Current (A)	Voltage (V)	Type of current/ Polarity	Wire Feed Speed (m/min)	Travel Speed* (cm/min)	Heat input* (kJ/mm)
1 ~ 2	111	3.2	105 ~ 150	22 ~ 26	DCEP	N.A	10 ~ 15	0.7 ~ 1.9
Grinding & Brushing & PT								
3 ~ n	111	4.0	140 ~ 200	25 ~ 27	DCEP	N.A	15 ~ 30	0.6 ~ 1.7

Filler material designation and make: ISO 3580 E Mo B 20 / AWS A5.5 E7018-A1	
Any Special Baking or Drying: 350°C - 2 h	Other information* , e.g.:
Designation Gas/Flux: Shielding: N.A Backing: N.A	String or Weave: Both
Gas Flow Rate: Shielding: N.A Backing: N.A	Oscillation: amplitude, frequency, dwell time: -
Tungsten Electrode Type/Size N.A	Pulse welding details: N.A
Details of Back Gouging/Backing: Grinding & Brushing	Electrode Extension(mm): N.A
Preheat Temperature: min 100°C	Plasma welding details: N.A
Interpass Temperature: max. 250 °C	Torch angle: Manual
Post heating: N.A	Electrode Stick out(mm): N.A
Post-Weld Heat treatment and/or Ageing: N.A	degree of mechanization: Manual
(Time, Temperature, Method :	Other: N.A
Heating and Cooling Rates*) :	

Prepared by: (name and signature) A. Talebi	
--	---

* If required

▪ OBJECT

This specification defines the Design and Non Destructive Test (NDT) criteria for Structure, Equipments and Machinery weldments, designed by Sarralle Engineering department, others not covered in "EN 13445 Unfired pressure vessels".

This specification also states the acceptance criteria for each type of welding.

▪ STANDARD REFERENCES

The following standards have been taken like a guideline for the configuration of this Design criteria.

STANDARD	TITLE
AWS D14.4	Specification for Welded Joints in Machinery and Equipment Thermal Spraying
AWS A3.0	Standard Welding Terms and Definitions Including Terms for Adhesive Bonding, Brazing, Soldering, Thermal Cutting and Thermal Spraying
EN ISO 5817	Welding - Fusion-welded joints in steel, nickel, titanium and their alloys (beam welding excluded) - Quality levels for imperfections

▪ DEFINITION OF WELDING CLASS

PRIMARY WELD 1 (PW1): This covers complete and partial penetration weld joints. These weld joints apply where failure would cause a loss of the system and/or be hazardous to personnel. PW1 weld joints are highly stressed (dynamic and cyclic loading) and characterized as a single point of failure with no redundancy for the redistribution of stress into another member.

PRIMARY WELD 2 (PW2): This covers both complete and partial penetration groove weld joints and fillet weld joints. These weld joints apply where failure would reduce the overall efficiency of a system but loss of the system or a hazard to personnel would not be experienced.

SECONDARY WELD 1 (SW1): This covers both complete and partial penetration groove weld joints and fillet weld joints. These weld joints apply where failure would not affect the efficiency of a system nor create a hazard to personnel. SW1 weld joints are connections of secondary members not subject to dynamic action and/or low stressed miscellaneous applications.

SECONDARY WELD 2 (SW2): This covers weld joints applicable to welding reinforcing steel to primary structural members.

■ NDT APPLICATION PER WELDING CLASS

The NDT application criterias stated in this section are the minimum ones. The Design Engineer could define stricter levels depending of the Equipment or even specific joints.

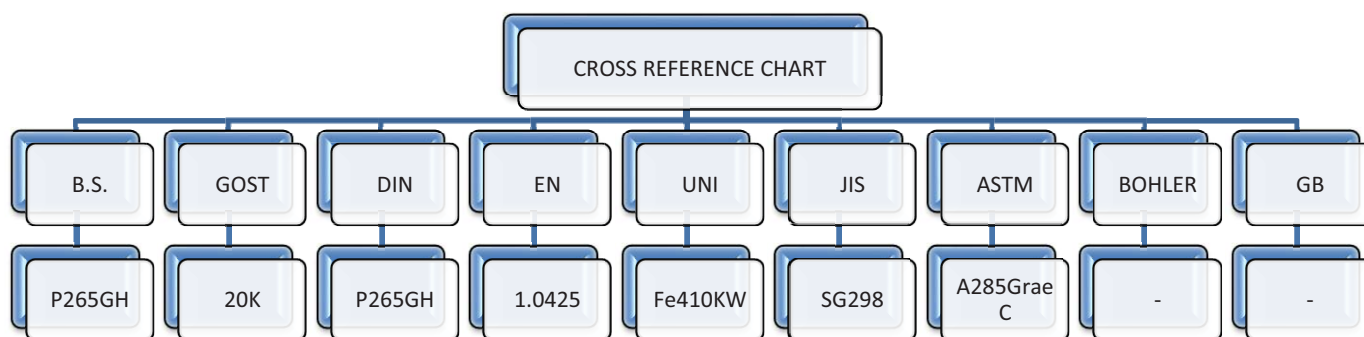
Primary Weld	PW	MT	UT (*)	VT	REMARKS
Class I	PW1	100%	100%	100%	Referred at control plan and drawing
Class II	PW2	100%	10%	100%	Referred at control plan and drawing
(*) Only at CJP joints.					
Secondary Weld	SW	MT	UT	VT	
Class III	SW1	50%	—	100%	All joints which are not indicated as PW, will be considered SW
Class IV	SW2		—	100%	
MT can be substituted by PT.					
UT can be substituted by RT.					

■ ACCEPTANCE CRITERIA PER WELDING CLASS

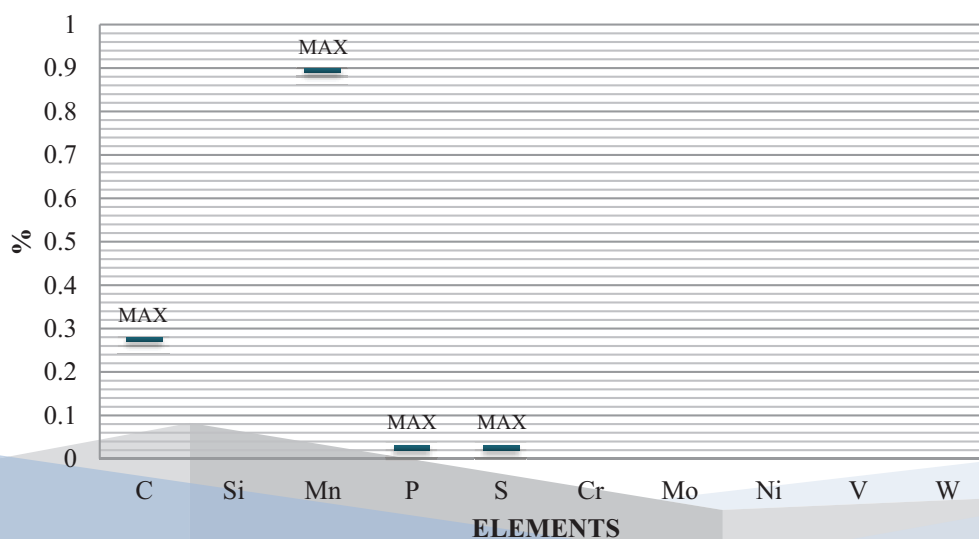
The acceptance criteria stated in this section are the minimum ones. The Design Engineer could define stricter levels depending of the Equipment or even specific joints.

Primary Weld	PW	Acceptance Criteria according EN ISO 5817
Class I	PW1	Level B
Class II	PW2	Level C
Secondary Weld	SW	
Class III	SW1	Level D
Class IV	SW2	

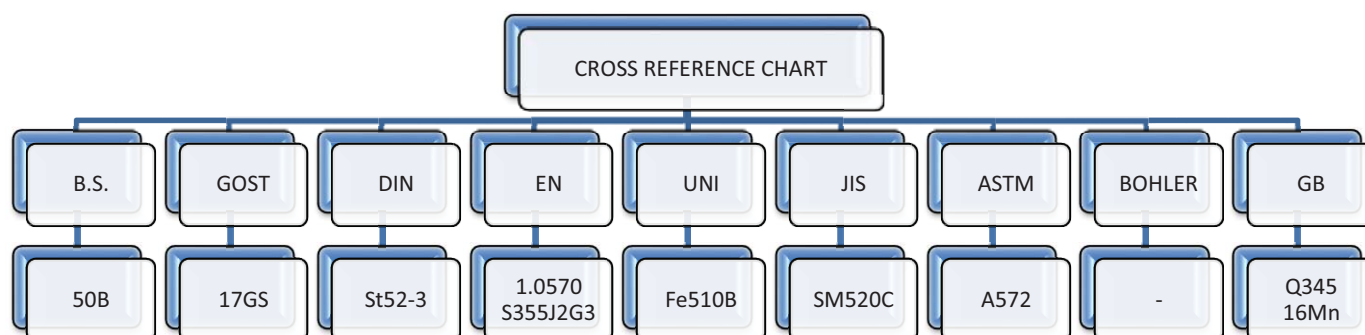
CHEMICAL COMPOSITION & EQUIVALENT MATERIALS



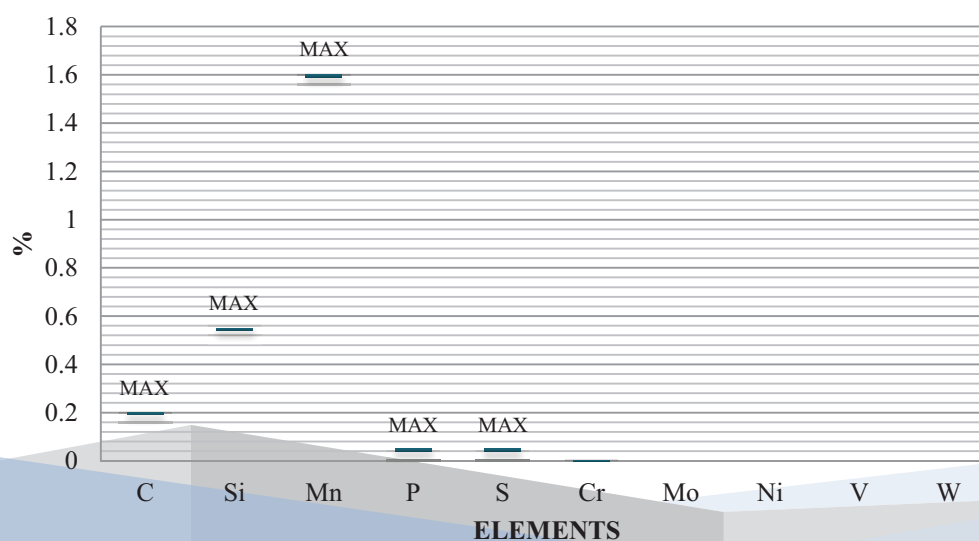
Group: Steels for pressure purposes

[illegible]

CHEMICAL COMPOSITION & EQUIVALENT MATERIALS



Group: Steels for general structural purposes

[illegible]

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

بازرسی فنی :

TEST CODE	DESCRIPTION OF TEST	STD TEST	INSPECTION TYPE	REQUIRED TEST
-	Analyze of Material	Report of a valid laboratory/co.	R	✓
58	Visual and dimensional check	Draw& specif.	R	✓
-	Fit up	DANIELI 2.8.114 DANIELI 2.8.115	H	✓
40	Non-destructive examinations "NDT" (collecting) on welding's	DANIELI 2.8.114 DANIELI 2.8.115	R See Table 1	✓
30,41,42,43,44	Non-destructive examinations "NDT" (collecting) on castings	DANIELI 2.8.004 DANIELI 2.8.005 DANIELI 2.8.017	R See Table 1	
03,04,17,31	Non-destructive examinations "NDT" (collecting) on forgings and rolled bars	DANIELI 2.8.001 DANIELI 2.8.009	R See Table 1	
-	Tensile test	ISO 6892	R	✓
12	Metallographic structure	DANIELI 2.8.004 DANIELI 2.8.017	R	
05,06,13,14,16	Heat treatment cycle	DANIELI 2.8.300	R See Table 2	✓
11	Hardness measurement	DANIELI 2.8.101	R	
23	Surface hardening depth measurement	ISO 3754	R	
-	Coating	Report of a valid laboratory/co.	R See Table 3	
-	Thick. measurement of coatings	DANIELI 2.8.304 DANIELI 2.8.305	R	
57	Balancing	DANIELI 2.4.102 DANIELI 2.8.105	R	
25	Pressure leak test & proof test	DANIELI 2.8.102	R	
55	Surface Protection Inspection, Painting	DANIELI 2.8.302	R	✓
-	Packing for shipment	DANIELI 2.8.002	H	✓

TABLE 1

		% Non-destructive examinations					
		VT	DT	PT	MT	UT	RT
EDGES		✓	✓				
WELDS (For Structures)	Butt welds	✓	✓	✓	✓	✓	
	Fillet welds and/or partial penetration welds	✓	✓	✓	✓	✓	
	Fillet welds with full penetration	✓	✓	✓	✓	✓	
WELDS (For Piping Systems)	Butt welds	✓	✓				
	Fillet (socket) welds	✓	✓				
CASTING		CLASS		A	B	C	D
FORGING							

TABLE 2

hardening & tempering	Annealing	Normalizing	Quenching	Tempering	Induction hardening	Nitrating	Carburizing	Stress relieving
								✓

TABLE 3

COATING	Hard chromium plating	Chrome oxide coating	Coating powders	Zinc galvanizing	Phosphating
REQUIRED TEST					

W (Witness) : حضور و مشاهده بازرس کارفرما حین انجام فرآیند ضروری است یا بازرسی باید به طور کامل توسط بازرس کارفرما صورت گیرد .

R (Review) : بازبینی مدارک QC سازنده و کنترل رندم کفایت دارد.

H (Hold) : ادامه تولید باید با اجازه بازرس کارفرما باشد لذا جهت جلوگیری از وقفه در تولید ،قبلا" تدابیر و هماهنگی لازم صورت گیرد.

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

REQUIREMENT INSTRUMENTS					
✓	Caliper		✓	Pitch gauge	
✓	Micrometer			Depth gauge	
	Bore gauge		✓	R gauge	
	Gauge blocks			Compass	
	Protractor		✓	Digital indicator	
✓	Meter			Gear tooth Vernier caliper	
Special instruments					

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

بسته بندی و انبار داری :

بدون بسته بندی	حمل به صورت بانديل	پايه يا پالت چوبي	کارتن	جعبه چوبي	صندوق چوبي
					
✓					

شرایط محافظت از سطوح قطعه :

سطوح ماشین کاری تلرانسی آغشته به روغن یا گریس شوند .	
سطوح ماشین کاری تلرانسی با پلاستیک ضربه گیر محافظت شوند .	✓

نکات انبارداری :

دور از تابش مستقیم نور باشد .	
نگهداری در انبار رو باز بلا مانع می باشد .	✓
قطعه شکستنی می باشد .	
دور از رطوبت نگهداری شود .	
جهت جابجایی فقط از مکان های مجاز قابل حمل می باشد.	✓
ورودی و خروجی لوله ها با درپوش بسته باشد.	

توضیحات :

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER:

IRAN ALLOY STEEL CO.

CONTRACTOR:

ISATIS MATIN TARH CO.



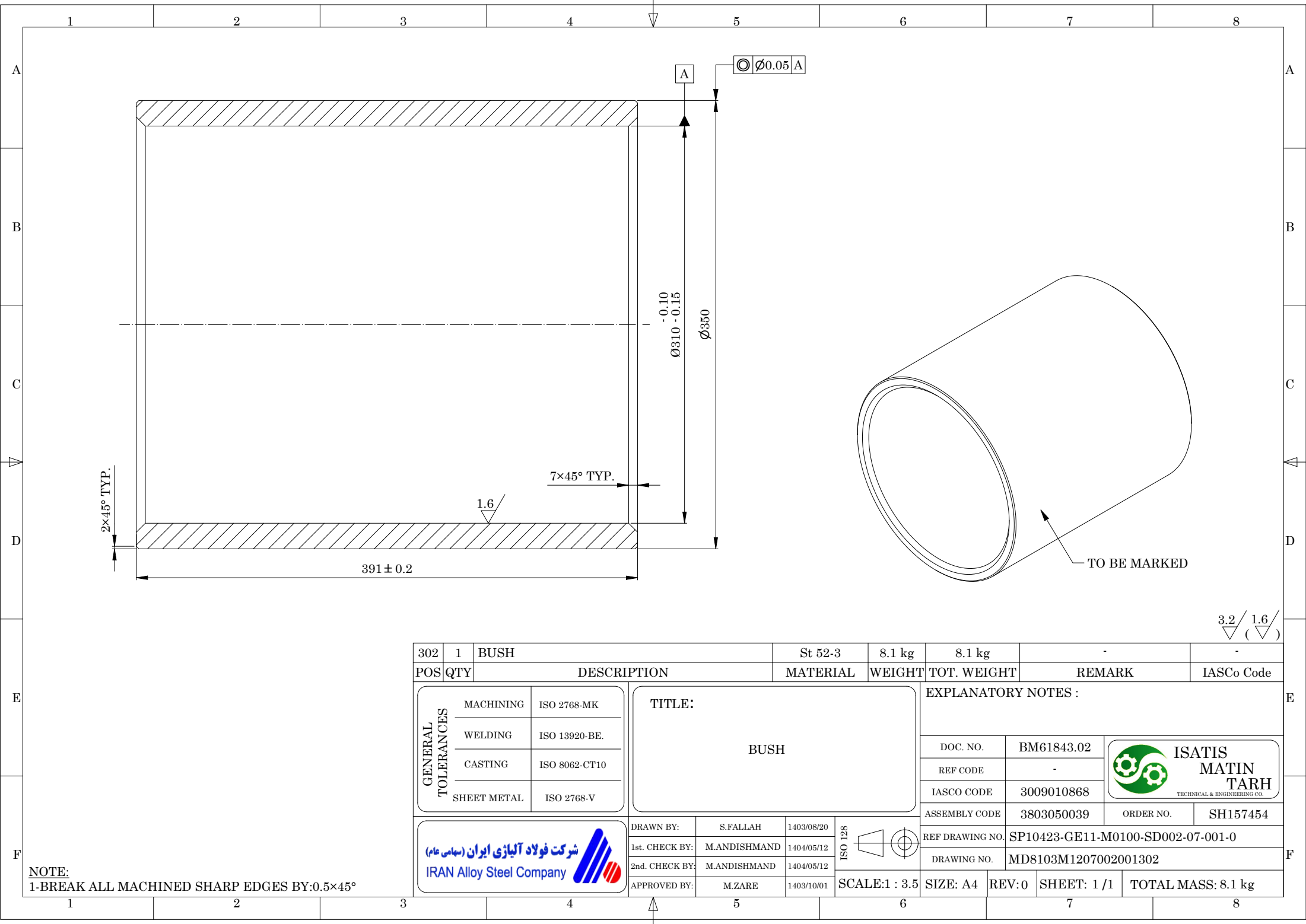
<i>Document NO.</i>	<i>BM61843.02</i>
<i>TITLE :</i>	<i>BUSH</i>
<i>IASCO CODE :</i>	<i>3009010868</i>
<i>REF CODE:</i>	<i>-</i>

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

فهرست مندرجات :

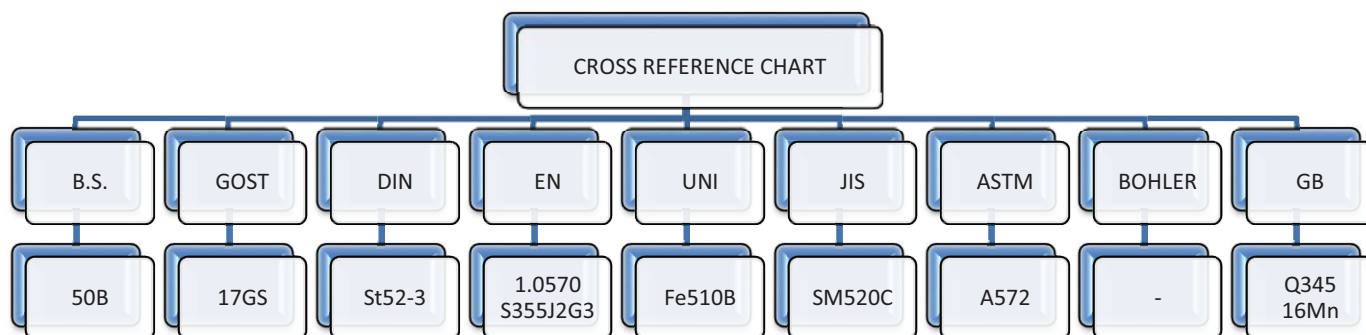
۱	اطلاعات فنی ساخت
	- عکس قطعه یا تجهیز - نقشه ساخت - دستورالعمل جوشکاری (WPS)
۲	اطلاعات مواد اولیه
۳	بازرسی فنی و ابزار آلات اندازه گیری
۴	بسته بندی و انبارداری
۵	نمای سه بعدی (3D PDF)



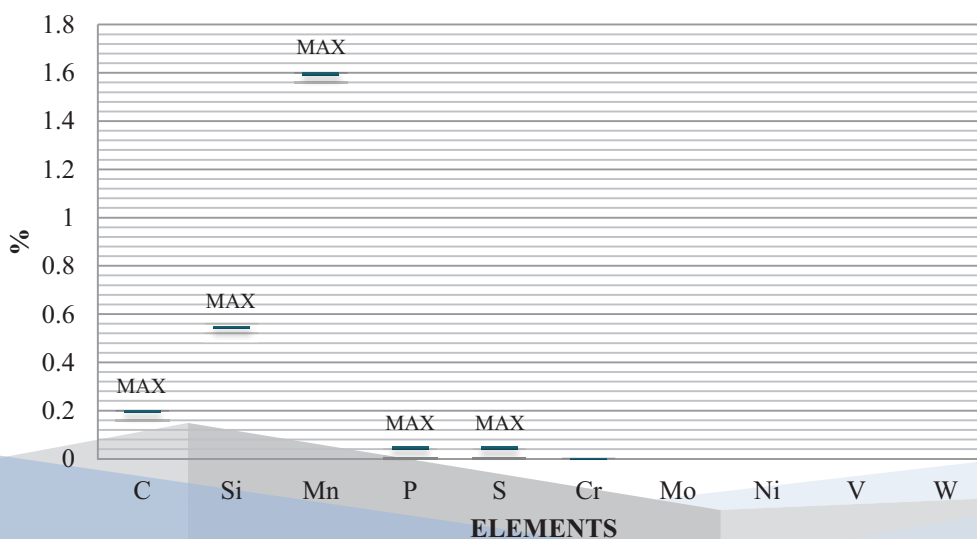
NOTE:
1-BREAK ALL MACHINED SHARP EDGES BY:0.5×45°

302	1	BUSH	St 52-3	8.1 kg	8.1 kg	-	-					
POS	QTY	DESCRIPTION	MATERIAL	WEIGHT	TOT. WEIGHT	REMARK	IASCo Code					
GENERAL TOLERANCES	MACHINING	ISO 2768-MK	TITLE: BUSH		EXPLANATORY NOTES :							
	WELDING	ISO 13920-BE.										
	CASTING	ISO 8062-CT10										
	SHEET METAL	ISO 2768-V										
شرکت فولاد آلیاژی ایران (سهامی عام) IRAN Alloy Steel Company 			DRAWN BY:	S.FALLAH	1403/08/20	ISO 128 	DOC. NO.		BM61843.02	 ISATIS MATIN TARH TECHNICAL & ENGINEERING CO.		
			1st. CHECK BY:	M.ANDISHMAND	1404/05/12		REF CODE		-			
			2nd. CHECK BY:	M.ANDISHMAND	1404/05/12		IASCO CODE		3009010868			
			APPROVED BY:	M.ZARE	1403/10/01		SCALE:1 : 3.5		SIZE: A4	REV: 0	SHEET: 1 / 1	TOTAL MASS: 8.1 kg
			ASSEMBLY CODE		3803050039		ORDER NO.		SH157454			
REF DRAWING NO.				SP10423-GE11-M0100-SD002-07-001-0								
DRAWING NO.				MD8103M1207002001302								

CHEMICAL COMPOSITION & EQUIVALENT MATERIALS



Group: Steels for general structural purposes

[illegible]

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

بازرسی فنی :

TEST CODE	DESCRIPTION OF TEST	STD TEST	INSPECTION TYPE	REQUIRED TEST
-	Analyze of Material	Report of a valid laboratory/co.	R	✓
58	Visual and dimensional check	Draw& specif.	R	✓
-	Fit up	DANIELI 2.8.114 DANIELI 2.8.115	H	
40	Non-destructive examinations "NDT" (collecting) on welding's	DANIELI 2.8.114 DANIELI 2.8.115	R See Table 1	
30,41,42,43,44	Non-destructive examinations "NDT" (collecting) on castings	DANIELI 2.8.004 DANIELI 2.8.005 DANIELI 2.8.017	R See Table 1	
03,04,17,31	Non-destructive examinations "NDT" (collecting) on forgings and rolled bars	DANIELI 2.8.001 DANIELI 2.8.009	R See Table 1	
-	Tensile test	ISO 6892	R	✓
12	Metallographic structure	DANIELI 2.8.004 DANIELI 2.8.017	R	
05,06,13,14,16	Heat treatment cycle	DANIELI 2.8.300	R See Table 2	
11	Hardness measurement	DANIELI 2.8.101	R	
23	Surface hardening depth measurement	ISO 3754	R	
-	Coating	Report of a valid laboratory/co.	R See Table 3	
-	Thick. measurement of coatings	DANIELI 2.8.304 DANIELI 2.8.305	R	
57	Balancing	DANIELI 2.4.102 DANIELI 2.8.105	R	
25	Pressure leak test & proof test	DANIELI 2.8.102	R	
55	Surface Protection Inspection, Painting	DANIELI 2.8.302	R	
-	Packing for shipment	DANIELI 2.8.002	H	✓

TABLE 1

		% Non-destructive examinations					
		VT	DT	PT	MT	UT	RT
EDGES							
WELDS (For Structures)	Butt welds						
	Fillet welds and/or partial penetration welds						
	Fillet welds with full penetration						
WELDS (For Piping Systems)	Butt welds						
	Fillet (socket) welds						
CASTING		CLASS		A	B	C	D
FORGING							

TABLE 2

hardening & tempering	Annealing	Normalizing	Quenching	Tempering	Induction hardening	Nitrating	Carburizing	Stress relieving

TABLE 3

COATING	Hard chromium plating	Chrome oxide coating	Coating powders	Zinc galvanizing	Phosphating
REQUIRED TEST					

W (Witness) : حضور و مشاهده بازرس کارفرما حین انجام فرآیند ضروری است یا بازرسی باید به طور کامل توسط بازرس کارفرما صورت گیرد .

R (Review) : بازبینی مدارک QC سازنده و کنترل رندم کفایت دارد.

H (Hold) : ادامه تولید باید با اجازه بازرس کارفرما باشد لذا جهت جلوگیری از وقفه در تولید ،قبلا" تدابیر و هماهنگی لازم صورت گیرد.

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

REQUIREMENT INSTRUMENTS					
✓	Caliper			Pitch gauge	
	Micrometer			Depth gauge	
✓	Bore gauge			R gauge	
	Gauge blocks			Compass	
	Protractor		✓	Digital indicator	
	Meter			Gear tooth Vernier caliper	
Special instruments					

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

بسته بندی و انبار داری :

بدون بسته بندی	حمل به صورت بانديل	پايه يا پالت چوبي	کارتن	جعبه چوبي	صندوق چوبي
					
			✓		

شرایط محافظت از سطوح قطعه :

سطوح ماشین کاری تلرانسی آغشته به روغن یا گریس شوند .	
سطوح ماشین کاری تلرانسی با پلاستیک ضربه گیر محافظت شوند .	✓

نکات انبارداری :

دور از تابش مستقیم نور باشد .	
نگهداری در انبار رو باز بلا مانع می باشد .	
قطعه شکستنی می باشد .	
دور از رطوبت نگهداری شود .	✓
جهت جابجایی فقط از مکان های مجاز قابل حمل می باشد.	
ورودی و خروجی لوله ها با درپوش بسته باشد.	

توضیحات :

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER:

IRAN ALLOY STEEL CO.

CONTRACTOR:

ISATIS MATIN TARH CO.



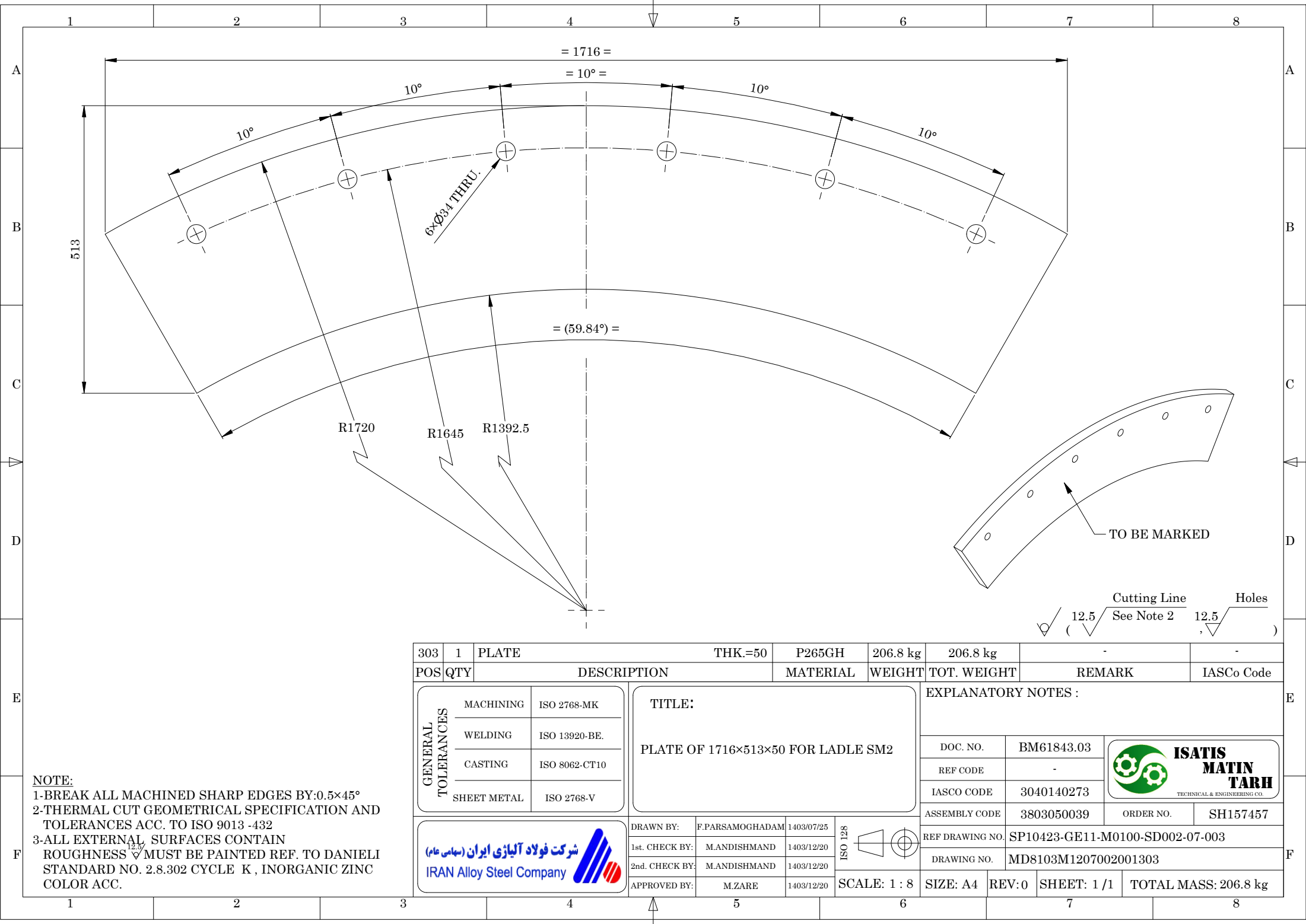
<i>Document NO.</i>	<i>BM61843.03</i>
<i>TITLE :</i>	<i>PLATE OF 1716×513×50 FOR LADEL SM2</i>
<i>IASCO CODE :</i>	<i>3040140273</i>
<i>REF CODE:</i>	<i>-</i>

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

فهرست مندرجات :

۱	اطلاعات فنی ساخت
	- عکس قطعه یا تجهیز - نقشه ساخت - دستورالعمل جوشکاری (WPS)
۲	اطلاعات مواد اولیه
۳	بازرسی فنی و ابزار آلات اندازه گیری
۴	بسته بندی و انبارداری
۵	نمای سه بعدی (3D PDF)

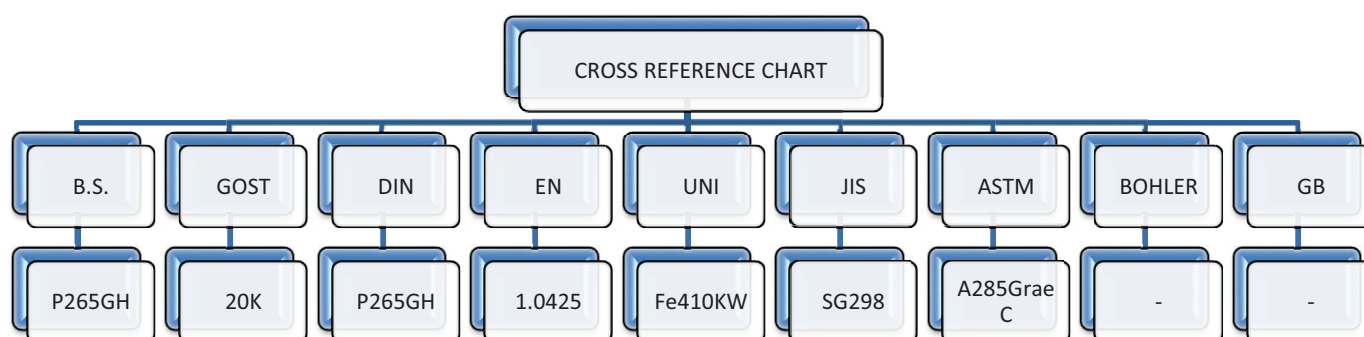


NOTE:
1-BREAK ALL MACHINED SHARP EDGES BY:0.5x45°
2-THERMAL CUT GEOMETRICAL SPECIFICATION AND TOLERANCES ACC. TO ISO 9013 -432
3-ALL EXTERNAL SURFACES CONTAIN ROUGHNESS $\sqrt{12.5}$ MUST BE PAINTED REF. TO DANIELI STANDARD NO. 2.8.302 CYCLE K , INORGANIC ZINC COLOR ACC.

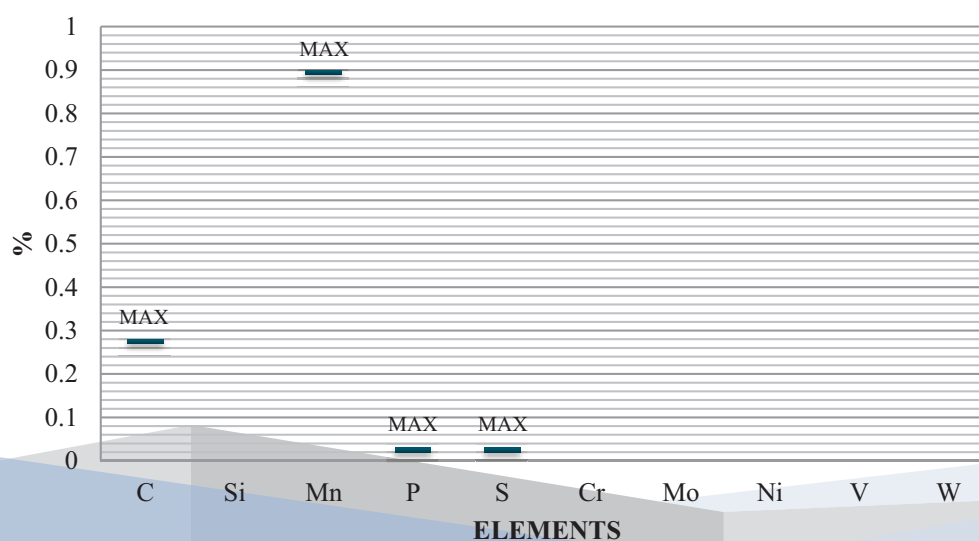
303	1	PLATE	THK.=50	P265GH	206.8 kg	206.8 kg	-	-																																						
POS	QTY	DESCRIPTION			MATERIAL	WEIGHT	TOT. WEIGHT	REMARK	IASCo Code																																					
GENERAL TOLERANCES		MACHINING	ISO 2768-MK		TITLE: PLATE OF 1716×513×50 FOR LADLE SM2			EXPLANATORY NOTES : <table><tr><td>DOC. NO.</td><td>BM61843.03</td><td rowspan="4"></td></tr><tr><td>REF CODE</td><td>-</td></tr><tr><td>IASCO CODE</td><td>3040140273</td></tr><tr><td>ASSEMBLY CODE</td><td>3803050039</td><td>ORDER NO.</td><td>SH157457</td></tr><tr><td>WELDING</td><td colspan="2">ISO 13920-BE.</td><td colspan="2">REF DRAWING NO.</td><td colspan="3">SP10423-GE11-M0100-SD002-07-003</td></tr><tr><td>CASTING</td><td colspan="2">ISO 8062-CT10</td><td colspan="2">DRAWING NO.</td><td colspan="3">MD8103M1207002001303</td></tr><tr><td>SHEET METAL</td><td colspan="2">ISO 2768-V</td><td colspan="2">SCALE: 1 : 8</td><td>SIZE: A4</td><td>REV:0</td><td>SHEET: 1 / 1</td><td colspan="2">TOTAL MASS: 206.8 kg</td></tr></table>		DOC. NO.	BM61843.03		REF CODE	-	IASCO CODE	3040140273	ASSEMBLY CODE	3803050039	ORDER NO.	SH157457	WELDING	ISO 13920-BE.		REF DRAWING NO.		SP10423-GE11-M0100-SD002-07-003			CASTING	ISO 8062-CT10		DRAWING NO.		MD8103M1207002001303			SHEET METAL	ISO 2768-V		SCALE: 1 : 8		SIZE: A4	REV:0	SHEET: 1 / 1	TOTAL MASS: 206.8 kg	
		DOC. NO.	BM61843.03																																											
		REF CODE	-																																											
		IASCO CODE	3040140273																																											
		ASSEMBLY CODE	3803050039							ORDER NO.	SH157457																																			
WELDING	ISO 13920-BE.		REF DRAWING NO.		SP10423-GE11-M0100-SD002-07-003																																									
CASTING	ISO 8062-CT10		DRAWING NO.		MD8103M1207002001303																																									
SHEET METAL	ISO 2768-V		SCALE: 1 : 8		SIZE: A4	REV:0	SHEET: 1 / 1	TOTAL MASS: 206.8 kg																																						
 شرکت فولاد آلیاژی ایران (سهایی عام) IRAN Alloy Steel Company		DRAWN BY:	F.PARSAMOGHADAM	1403/07/25	ISO 128 																																									
		1st. CHECK BY:	M.ANDISHMAND	1403/12/20																																										
		2nd. CHECK BY:	M.ANDISHMAND	1403/12/20																																										
		APPROVED BY:	M.ZARE	1403/12/20																																										



CHEMICAL COMPOSITION & EQUIVALENT MATERIALS



Group: Steels for pressure purposes

[illegible]

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

بازرسی فنی :

TEST CODE	DESCRIPTION OF TEST	STD TEST	INSPECTION TYPE	REQUIRED TEST
-	Analyze of Material	Report of a valid laboratory/co.	R	✓
58	Visual and dimensional check	Draw& specif.	R	✓
-	Fit up	DANIELI 2.8.114 DANIELI 2.8.115	H	
40	Non-destructive examinations "NDT" (collecting) on welding's	DANIELI 2.8.114 DANIELI 2.8.115	R See Table 1	
30,41,42,43,44	Non-destructive examinations "NDT" (collecting) on castings	DANIELI 2.8.004 DANIELI 2.8.005 DANIELI 2.8.017	R See Table 1	
03,04,17,31	Non-destructive examinations "NDT" (collecting) on forgings and rolled bars	DANIELI 2.8.001 DANIELI 2.8.009	R See Table 1	
-	Tensile test	ISO 6892	R	✓
12	Metallographic structure	DANIELI 2.8.004 DANIELI 2.8.017	R	
05,06,13,14,16	Heat treatment cycle	DANIELI 2.8.300	R See Table 2	
11	Hardness measurement	DANIELI 2.8.101	R	
23	Surface hardening depth measurement	ISO 3754	R	
-	Coating	Report of a valid laboratory/co.	R See Table 3	
-	Thick. measurement of coatings	DANIELI 2.8.304 DANIELI 2.8.305	R	
57	Balancing	DANIELI 2.4.102 DANIELI 2.8.105	R	
25	Pressure leak test & proof test	DANIELI 2.8.102	R	
55	Surface Protection Inspection, Painting	DANIELI 2.8.302	R	✓
-	Packing for shipment	DANIELI 2.8.002	H	✓

TABLE 1

		% Non-destructive examinations					
		VT	DT	PT	MT	UT	RT
EDGES							
WELDS (For Structures)	Butt welds						
	Fillet welds and/or partial penetration welds						
	Fillet welds with full penetration						
WELDS (For Piping Systems)	Butt welds						
	Fillet (socket) welds						
CASTING		CLASS		A	B	C	D
FORGING							

TABLE 2

hardening & tempering	Annealing	Normalizing	Quenching	Tempering	Induction hardening	Nitrating	Carburizing	Stress relieving

TABLE 3

COATING	Hard chromium plating	Chrome oxide coating	Coating powders	Zinc galvanizing	Phosphating
REQUIRED TEST					

W (Witness) : حضور و مشاهده بازرس کارفرما حین انجام فرآیند ضروری است یا بازرسی باید به طور کامل توسط بازرس کارفرما صورت گیرد .

R (Review) : بازبینی مدارک QC سازنده و کنترل رندم کفایت دارد.

H (Hold) : ادامه تولید باید با اجازه بازرس کارفرما باشد لذا جهت جلوگیری از وقفه در تولید ،قبلا" تدابیر و هماهنگی لازم صورت گیرد.

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

REQUIREMENT INSTRUMENTS					
✓	Caliper			Pitch gauge	
	Micrometer			Depth gauge	
	Bore gauge			R gauge	
	Gauge blocks			Compass	
	Protractor			Digital indicator	
✓	Meter			Gear tooth Vernier caliper	
Special instruments					

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

بسته بندی و انبار داری :

بدون بسته بندی	حمل به صورت بانديل	پايه يا پالت چوبي	کارتن	جعبه چوبي	صندوق چوبي
					
		✓			

شرایط محافظت از سطوح قطعه :

سطوح ماشین کاری تلرانسی آغشته به روغن یا گریس شوند .
سطوح ماشین کاری تلرانسی با پلاستیک ضربه گیر محافظت شوند .

نکات انبارداری :

دور از تابش مستقیم نور باشد .
نگهداری در انبار رو باز بلا مانع می باشد .
قطعه شکستنی می باشد .
دور از رطوبت نگهداری شود .
جهت جابجایی فقط از مکان های مجاز قابل حمل می باشد.
ورودی و خروجی لوله ها با درپوش بسته باشد.

توضیحات :

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER:

IRAN ALLOY STEEL CO.

CONTRACTOR:

ISATIS MATIN TARH CO.



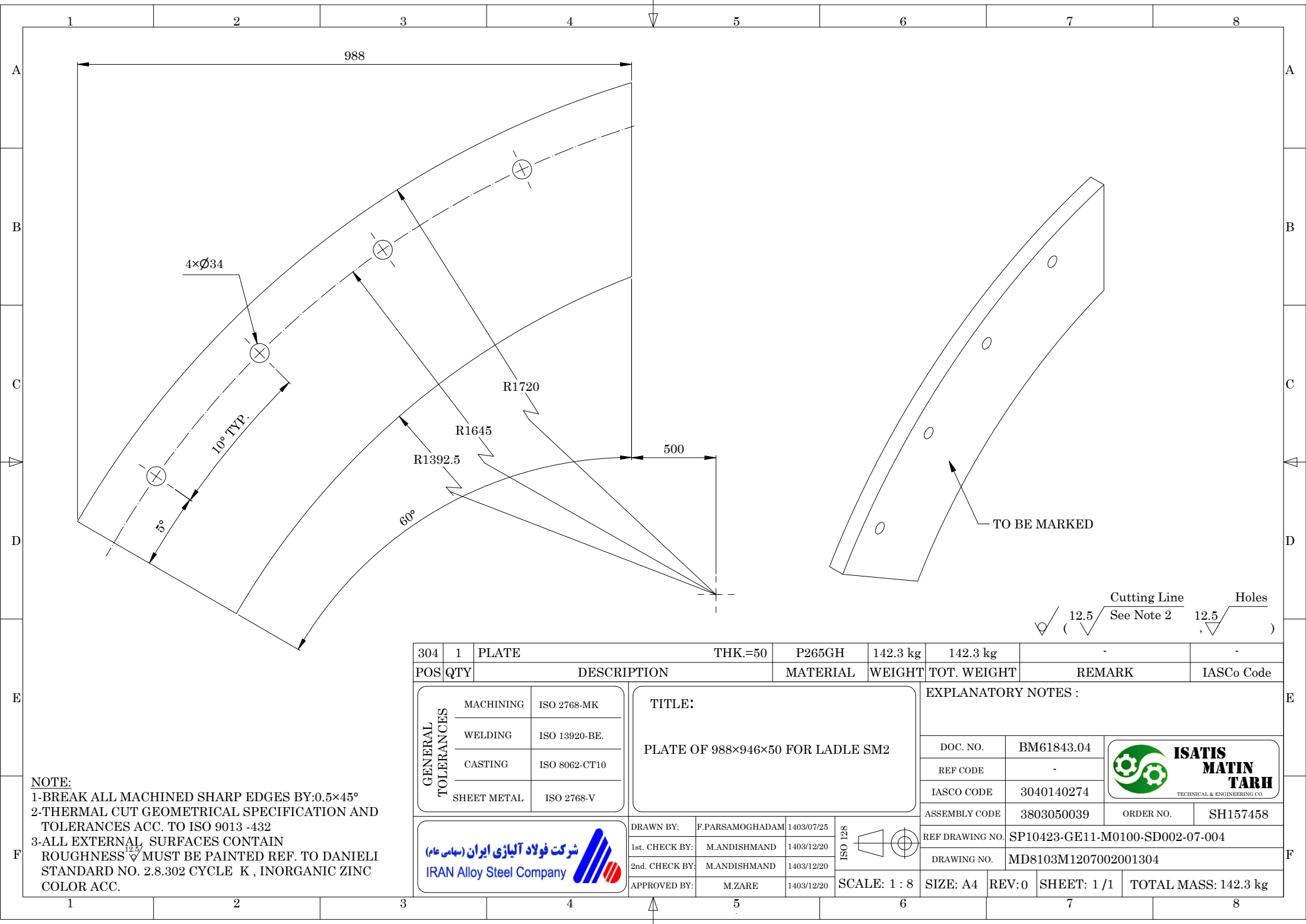
<i>Document NO.</i>	<i>BM61843.04</i>
<i>TITLE :</i>	<i>PLATE OF 988×946×50 FOR LADEL SM2</i>
<i>IASCO CODE :</i>	<i>3040140274</i>
<i>REF CODE:</i>	<i>-</i>

TECHNICAL SPECIFICATION DOCUMENT

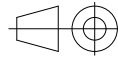
EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

فهرست مندرجات :

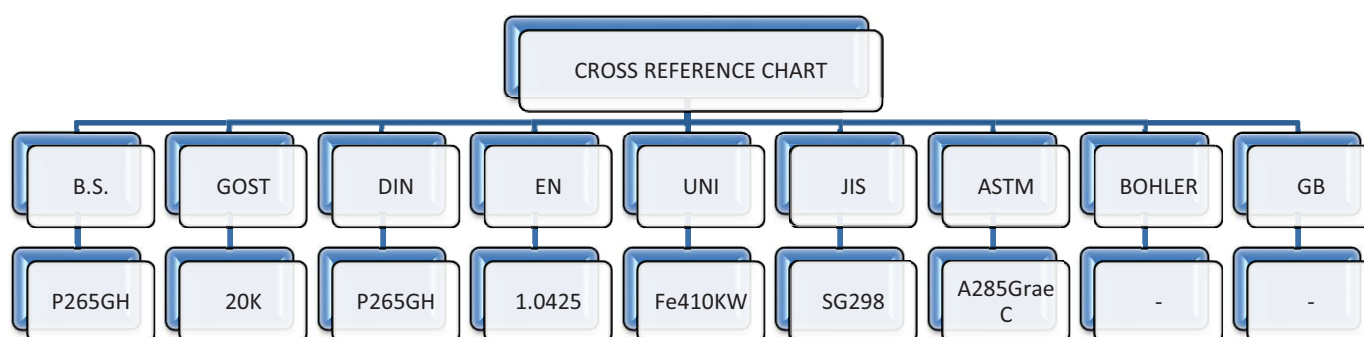
۱	اطلاعات فنی ساخت
	- عکس قطعه یا تجهیز - نقشه ساخت - دستورالعمل جوشکاری (WPS)
۲	اطلاعات مواد اولیه
۳	بازرسی فنی و ابزار آلات اندازه گیری
۴	بسته بندی و انبارداری
۵	نمای سه بعدی (3D PDF)



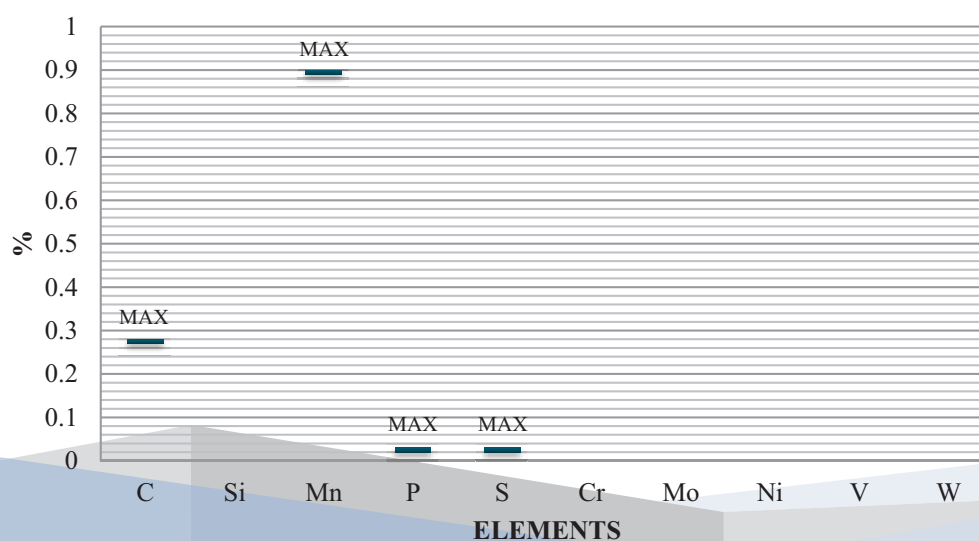
NOTE:
1-BREAK ALL MACHINED SHARP EDGES BY:0.5×45°
2-THERMAL CUT GEOMETRICAL SPECIFICATION AND TOLERANCES ACC. TO ISO 9013 -432
3-ALL EXTERNAL SURFACES CONTAIN ROUGHNESS $\sqrt{12.5}$ MUST BE PAINTED REF. TO DANIELI STANDARD NO. 2.8.302 CYCLE K , INORGANIC ZINC COLOR ACC.

304	1	PLATE	THK.=50	P265GH	142.3 kg	142.3 kg	-	-												
POS	QTY	DESCRIPTION			MATERIAL	WEIGHT	TOT. WEIGHT	REMARK	IASCo Code											
GENERAL TOLERANCES	MACHINING	ISO 2768-MK		TITLE: PLATE OF 988×946×50 FOR LADLE SM2			EXPLANATORY NOTES : <table><tr><td>DOC. NO.</td><td>BM61843.04</td><td rowspan="3"></td></tr><tr><td>REF CODE</td><td>-</td></tr><tr><td>IASCO CODE</td><td>3040140274</td></tr><tr><td>ASSEMBLY CODE</td><td>3803050039</td><td>ORDER NO.</td><td>SH157458</td></tr></table>			DOC. NO.	BM61843.04		REF CODE	-	IASCO CODE	3040140274	ASSEMBLY CODE	3803050039	ORDER NO.	SH157458
	DOC. NO.	BM61843.04																		
	REF CODE	-																		
	IASCO CODE	3040140274																		
ASSEMBLY CODE	3803050039	ORDER NO.	SH157458																	
WELDING	ISO 13920-BE.																			
CASTING	ISO 8062-CT10																			
SHEET METAL	ISO 2768-V																			
 شرکت فولاد آلیاژی ایران (سهامی عام) IRAN Alloy Steel Company				DRAWN BY:	F.PARSAMOGHADAM	1403/07/25		REF DRAWING NO. SP10423-GE11-M0100-SD002-07-004												
				1st. CHECK BY:	M.ANDISHMAND	1403/12/20														
				2nd. CHECK BY:	M.ANDISHMAND	1403/12/20														
				APPROVED BY:	M.ZARE	1403/12/20														
				SCALE: 1 : 8	SIZE: A4	REV: 0	SHEET: 1 / 1	TOTAL MASS: 142.3 kg												

CHEMICAL COMPOSITION & EQUIVALENT MATERIALS



Group: Steels for pressure purposes

[illegible]

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

بازرسی فنی :

TEST CODE	DESCRIPTION OF TEST	STD TEST	INSPECTION TYPE	REQUIRED TEST
-	Analyze of Material	Report of a valid laboratory/co.	R	✓
58	Visual and dimensional check	Draw& specif.	R	✓
-	Fit up	DANIELI 2.8.114 DANIELI 2.8.115	H	
40	Non-destructive examinations "NDT" (collecting) on welding's	DANIELI 2.8.114 DANIELI 2.8.115	R See Table 1	
30,41,42,43,44	Non-destructive examinations "NDT" (collecting) on castings	DANIELI 2.8.004 DANIELI 2.8.005 DANIELI 2.8.017	R See Table 1	
03,04,17,31	Non-destructive examinations "NDT" (collecting) on forgings and rolled bars	DANIELI 2.8.001 DANIELI 2.8.009	R See Table 1	
-	Tensile test	ISO 6892	R	✓
12	Metallographic structure	DANIELI 2.8.004 DANIELI 2.8.017	R	
05,06,13,14,16	Heat treatment cycle	DANIELI 2.8.300	R See Table 2	
11	Hardness measurement	DANIELI 2.8.101	R	
23	Surface hardening depth measurement	ISO 3754	R	
-	Coating	Report of a valid laboratory/co.	R See Table 3	
-	Thick. measurement of coatings	DANIELI 2.8.304 DANIELI 2.8.305	R	
57	Balancing	DANIELI 2.4.102 DANIELI 2.8.105	R	
25	Pressure leak test & proof test	DANIELI 2.8.102	R	
55	Surface Protection Inspection, Painting	DANIELI 2.8.302	R	✓
-	Packing for shipment	DANIELI 2.8.002	H	✓

TABLE 1

		% Non-destructive examinations					
		VT	DT	PT	MT	UT	RT
EDGES							
WELDS (For Structures)	Butt welds						
	Fillet welds and/or partial penetration welds						
	Fillet welds with full penetration						
WELDS (For Piping Systems)	Butt welds						
	Fillet (socket) welds						
CASTING		CLASS		A	B	C	D
FORGING							

TABLE 2

hardening & tempering	Annealing	Normalizing	Quenching	Tempering	Induction hardening	Nitrating	Carburizing	Stress relieving

TABLE 3

COATING	Hard chromium plating	Chrome oxide coating	Coating powders	Zinc galvanizing	Phosphating
REQUIRED TEST					

W (Witness) : حضور و مشاهده بازرس کارفرما حین انجام فرآیند ضروری است یا بازرسی باید به طور کامل توسط بازرس کارفرما صورت گیرد .

R (Review) : بازبینی مدارک QC سازنده و کنترل رندم کفایت دارد.

H (Hold) : ادامه تولید باید با اجازه بازرس کارفرما باشد لذا جهت جلوگیری از وقفه در تولید ،قبلا" تدابیر و هماهنگی لازم صورت گیرد.

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

REQUIREMENT INSTRUMENTS					
✓	Caliper			Pitch gauge	
	Micrometer			Depth gauge	
	Bore gauge			R gauge	
	Gauge blocks			Compass	
	Protractor			Digital indicator	
✓	Meter			Gear tooth Vernier caliper	
Special instruments					

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

بسته بندی و انبار داری :

بدون بسته بندی	حمل به صورت بانديل	پايه يا پالت چوبي	کارتن	جعبه چوبي	صندوق چوبي
					
		✓			

شرایط محافظت از سطوح قطعه :

سطوح ماشین کاری تلرانسی آغشته به روغن یا گریس شوند .	
سطوح ماشین کاری تلرانسی با پلاستیک ضربه گیر محافظت شوند .	

نکات انبارداری :

دور از تابش مستقیم نور باشد .	
نگهداری در انبار رو باز بلا مانع می باشد .	
قطعه شکستنی می باشد .	
دور از رطوبت نگهداری شود .	✓
جهت جابجایی فقط از مکان های مجاز قابل حمل می باشد.	
ورودی و خروجی لوله ها با درپوش بسته باشد.	

توضیحات :

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER:

IRAN ALLOY STEEL CO.

CONTRACTOR:

ISATIS MATIN TARH CO.



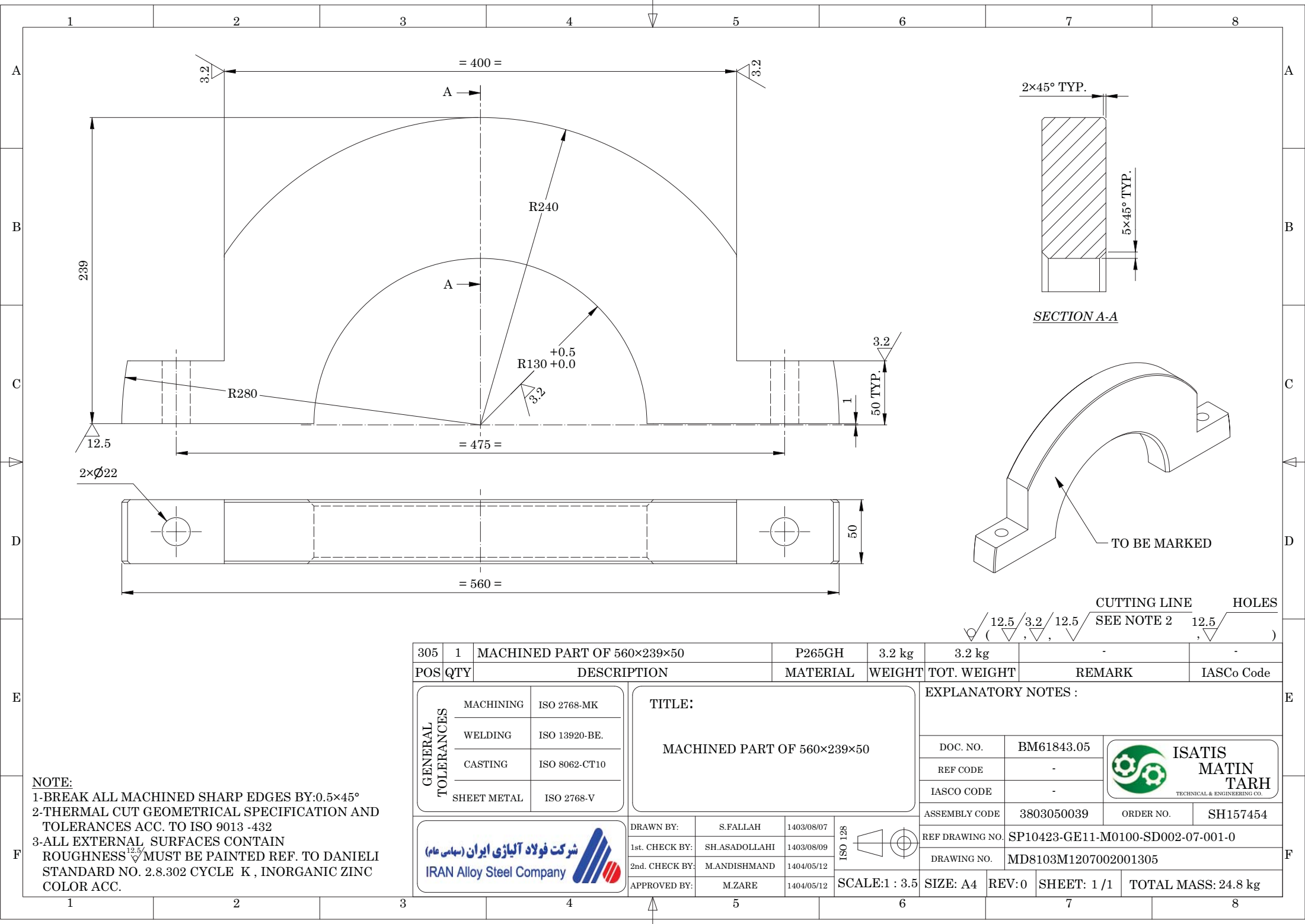
<i>Document NO.</i>	<i>BM61843.05</i>
<i>TITLE :</i>	<i>MACHINED PART OF 560×239×50</i>
<i>IASCO CODE :</i>	-
<i>REF CODE:</i>	-

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

فهرست مندرجات :

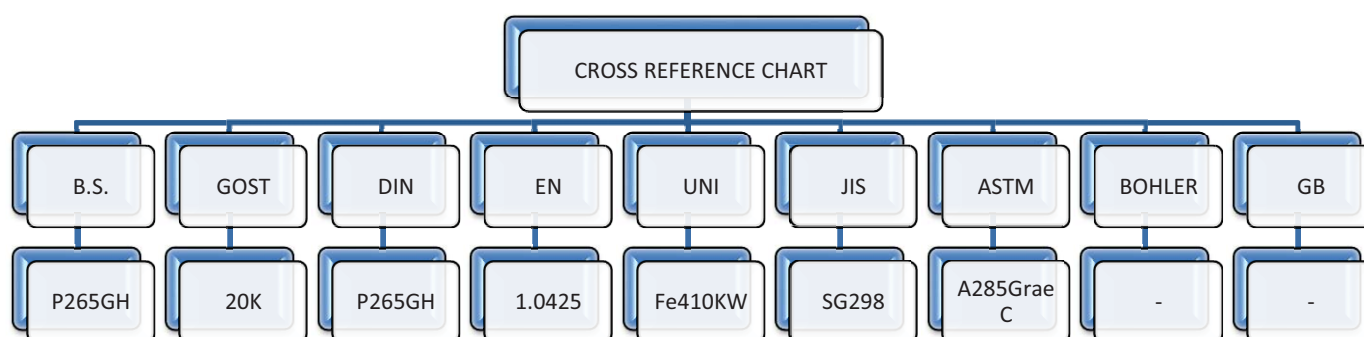
۱	اطلاعات فنی ساخت
	- عکس قطعه یا تجهیز - نقشه ساخت - دستورالعمل جوشکاری (WPS)
۲	اطلاعات مواد اولیه
۳	بازرسی فنی و ابزار آلات اندازه گیری
۴	بسته بندی و انبارداری
۵	نمای سه بعدی (3D PDF)



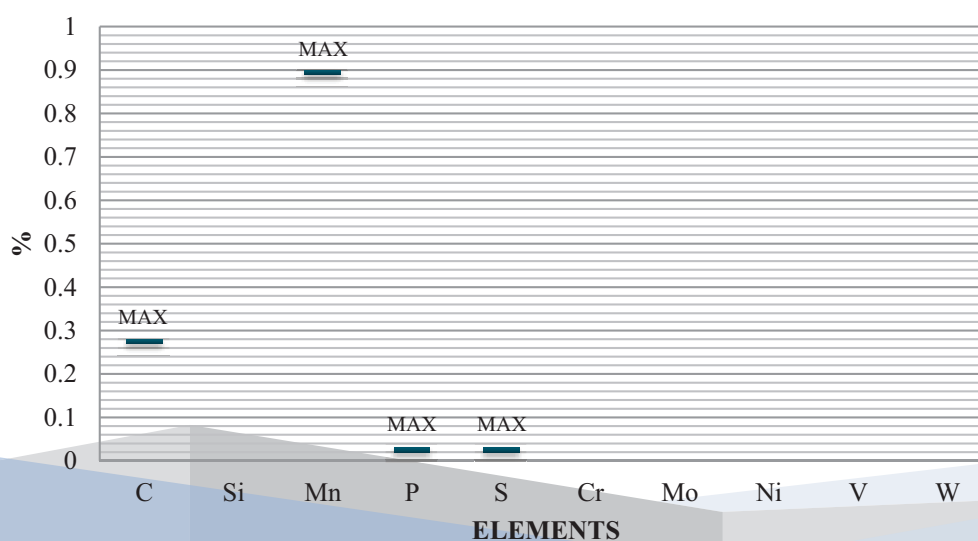
NOTE:
1-BREAK ALL MACHINED SHARP EDGES BY:0.5×45°
2-THERMAL CUT GEOMETRICAL SPECIFICATION AND TOLERANCES ACC. TO ISO 9013 -432
3-ALL EXTERNAL SURFACES CONTAIN ROUGHNESS 12.5/ MUST BE PAINTED REF. TO DANIELI STANDARD NO. 2.8.302 CYCLE K , INORGANIC ZINC COLOR ACC.

305	1	MACHINED PART OF 560×239×50			P265GH	3.2 kg	3.2 kg	-	-	
POS	QTY	DESCRIPTION			MATERIAL	WEIGHT	TOT. WEIGHT	REMARK	IASCo Code	
GENERAL TOLERANCES	MACHINING	ISO 2768-MK			TITLE: MACHINED PART OF 560×239×50					
	WELDING	ISO 13920-BE.								
	CASTING	ISO 8062-CT10								
	SHEET METAL	ISO 2768-V								
شرکت فولاد آلیاژی ایران (سهامی عام) IRAN Alloy Steel Company					EXPLANATORY NOTES :					
					DOC. NO.		BM61843.05		 ISATIS MATIN TARH TECHNICAL & ENGINEERING CO.	
					REF CODE		-			
					IASCO CODE		-			
					ASSEMBLY CODE		3803050039		ORDER NO.	SH157454
REF DRAWING NO.		SP10423-GE11-M0100-SD002-07-001-0								
DRAWING NO.		MD8103M1207002001305								
APPROVED BY:		M.ZARE	1404/05/12	SCALE:1 : 3.5	SIZE: A4	REV: 0	SHEET: 1 / 1	TOTAL MASS: 24.8 kg		

CHEMICAL COMPOSITION & EQUIVALENT MATERIALS



Group: Steels for pressure purposes

[illegible]

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

بازرسی فنی :

TEST CODE	DESCRIPTION OF TEST	STD TEST	INSPECTION TYPE	REQUIRED TEST
-	Analyze of Material	Report of a valid laboratory/co.	R	✓
58	Visual and dimensional check	Draw& specif.	R	✓
-	Fit up	DANIELI 2.8.114 DANIELI 2.8.115	H	
40	Non-destructive examinations "NDT" (collecting) on welding's	DANIELI 2.8.114 DANIELI 2.8.115	R See Table 1	
30,41,42,43,44	Non-destructive examinations "NDT" (collecting) on castings	DANIELI 2.8.004 DANIELI 2.8.005 DANIELI 2.8.017	R See Table 1	
03,04,17,31	Non-destructive examinations "NDT" (collecting) on forgings and rolled bars	DANIELI 2.8.001 DANIELI 2.8.009	R See Table 1	
-	Tensile test	ISO 6892	R	✓
12	Metallographic structure	DANIELI 2.8.004 DANIELI 2.8.017	R	
05,06,13,14,16	Heat treatment cycle	DANIELI 2.8.300	R See Table 2	
11	Hardness measurement	DANIELI 2.8.101	R	
23	Surface hardening depth measurement	ISO 3754	R	
-	Coating	Report of a valid laboratory/co.	R See Table 3	
-	Thick. measurement of coatings	DANIELI 2.8.304 DANIELI 2.8.305	R	
57	Balancing	DANIELI 2.4.102 DANIELI 2.8.105	R	
25	Pressure leak test & proof test	DANIELI 2.8.102	R	
55	Surface Protection Inspection, Painting	DANIELI 2.8.302	R	✓
-	Packing for shipment	DANIELI 2.8.002	H	✓

TABLE 1

		% Non-destructive examinations					
		VT	DT	PT	MT	UT	RT
EDGES							
WELDS (For Structures)	Butt welds						
	Fillet welds and/or partial penetration welds						
	Fillet welds with full penetration						
WELDS (For Piping Systems)	Butt welds						
	Fillet (socket) welds						
CASTING		CLASS		A	B	C	D
FORGING							

TABLE 2

hardening & tempering	Annealing	Normalizing	Quenching	Tempering	Induction hardening	Nitrating	Carburizing	Stress relieving

TABLE 3

COATING	Hard chromium plating	Chrome oxide coating	Coating powders	Zinc galvanizing	Phosphating
REQUIRED TEST					

W (Witness) : حضور و مشاهده بازرس کارفرما حین انجام فرآیند ضروری است یا بازرسی باید به طور کامل توسط بازرس کارفرما صورت گیرد .

R (Review) : بازبینی مدارک QC سازنده و کنترل رندم کفایت دارد.

H (Hold) : ادامه تولید باید با اجازه بازرس کارفرما باشد لذا جهت جلوگیری از وقفه در تولید ،قبلا" تدابیر و هماهنگی لازم صورت گیرد.

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

REQUIREMENT INSTRUMENTS					
✓	Caliper			Pitch gauge	
	Micrometer			Depth gauge	
	Bore gauge			R gauge	
	Gauge blocks			Compass	
	Protractor			Digital indicator	
✓	Meter			Gear tooth Vernier caliper	
Special instruments					

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

بسته بندی و انبار داری :

بدون بسته بندی	حمل به صورت بانديل	پايه يا پالت چوبي	کارتن	جعبه چوبي	صندوق چوبي
					
		✓			

شرایط محافظت از سطوح قطعه :

سطوح ماشین کاری تلرانسی آغشته به روغن یا گریس شوند .	
سطوح ماشین کاری تلرانسی با پلاستیک ضربه گیر محافظت شوند .	

نکات انبارداری :

دور از تابش مستقیم نور باشد .	
نگهداری در انبار رو باز بلا مانع می باشد .	
قطعه شکستنی می باشد .	
دور از رطوبت نگهداری شود .	✓
جهت جابجایی فقط از مکان های مجاز قابل حمل می باشد.	
ورودی و خروجی لوله ها با درپوش بسته باشد.	

توضیحات :

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER:

IRAN ALLOY STEEL CO.

CONTRACTOR:

ISATIS MATIN TARH CO.



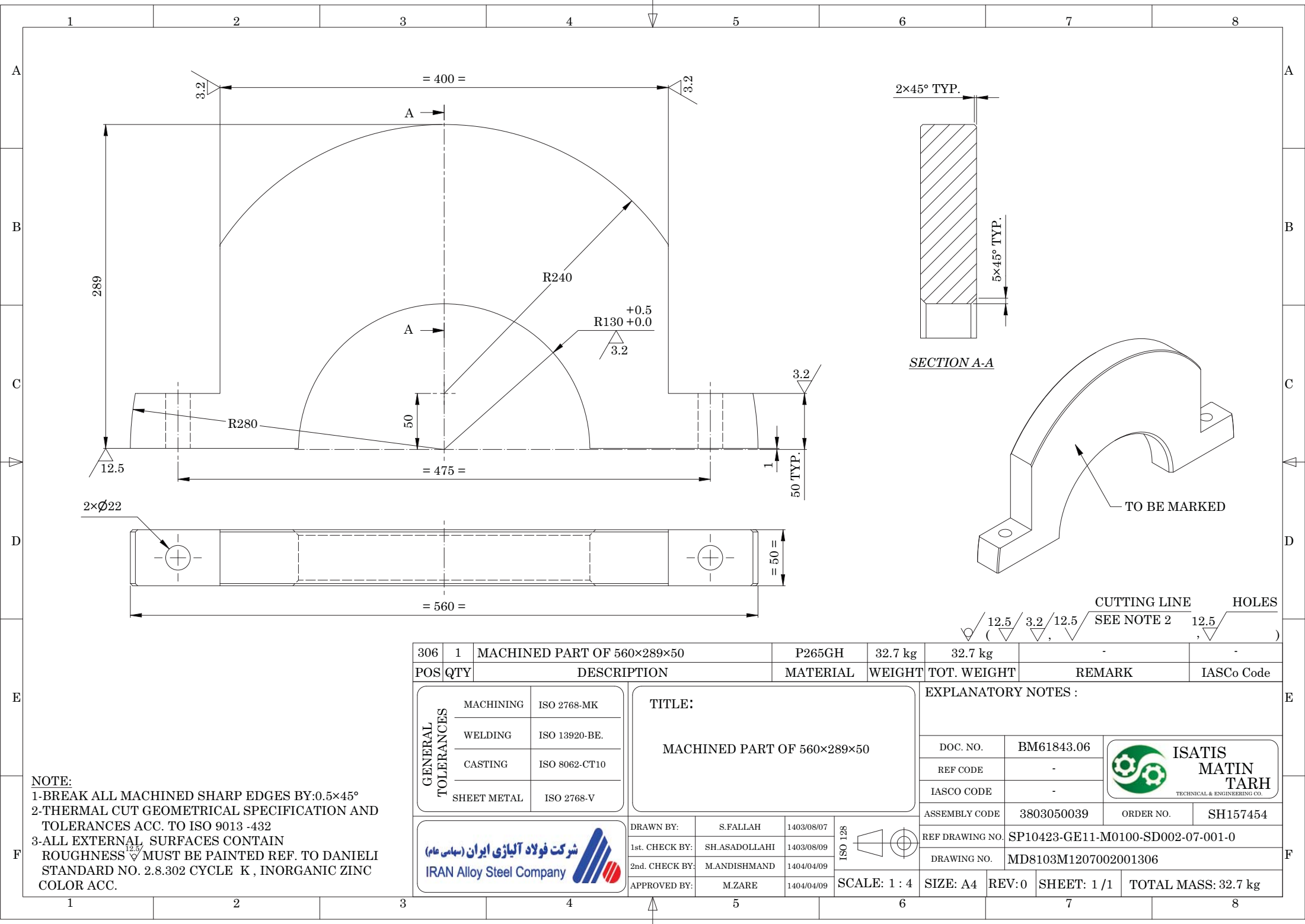
<i>Document NO.</i>	<i>BM61843.06</i>
<i>TITLE :</i>	<i>MACHINED PART OF 560×289×50</i>
<i>IASCO CODE :</i>	-
<i>REF CODE:</i>	-

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

فهرست مندرجات :

۱	اطلاعات فنی ساخت
	- عکس قطعه یا تجهیز - نقشه ساخت - دستورالعمل جوشکاری (WPS)
۲	اطلاعات مواد اولیه
۳	بازرسی فنی و ابزار آلات اندازه گیری
۴	بسته بندی و انبارداری
۵	نمای سه بعدی (3D PDF)

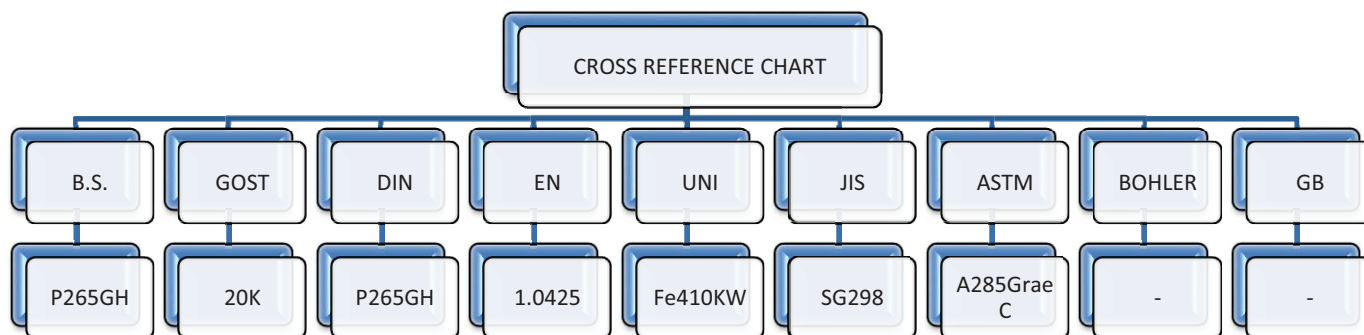


NOTE:
1-BREAK ALL MACHINED SHARP EDGES BY:0.5×45°
2-THERMAL CUT GEOMETRICAL SPECIFICATION AND TOLERANCES ACC. TO ISO 9013 -432
3-ALL EXTERNAL SURFACES CONTAIN ROUGHNESS 12.5 MUST BE PAINTED REF. TO DANIELI STANDARD NO. 2.8.302 CYCLE K , INORGANIC ZINC COLOR ACC.

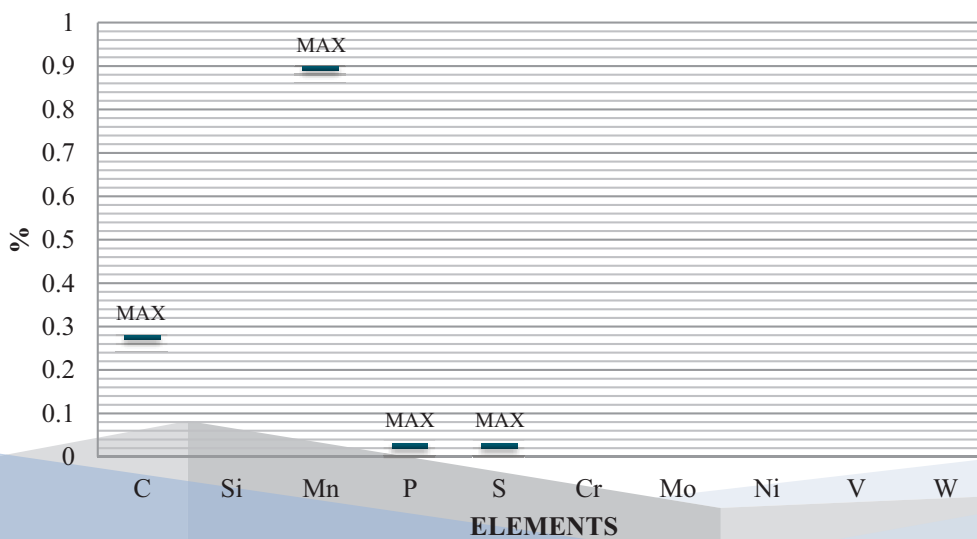
306	1	MACHINED PART OF 560×289×50		P265GH	32.7 kg	32.7 kg	-		-																																																	
POS	QTY	DESCRIPTION		MATERIAL	WEIGHT	TOT. WEIGHT	REMARK		IASCo Code																																																	
GENERAL TOLERANCES		MACHINING	ISO 2768-MK		TITLE: MACHINED PART OF 560×289×50					EXPLANATORY NOTES : <table><tr><td>DOC. NO.</td><td colspan="4">BM61843.06</td><td rowspan="3"></td><td colspan="2" rowspan="3">ISATIS MATIN TARH TECHNICAL & ENGINEERING CO.</td></tr><tr><td>REF CODE</td><td colspan="4">-</td></tr><tr><td>IASCO CODE</td><td colspan="4">-</td></tr><tr><td>ASSEMBLY CODE</td><td colspan="4">3803050039</td><td>ORDER NO.</td><td colspan="2">SH157454</td></tr><tr><td>REF DRAWING NO.</td><td colspan="8">SP10423-GE11-M0100-SD002-07-001-0</td></tr><tr><td>DRAWING NO.</td><td colspan="8">MD8103M1207002001306</td></tr></table>					DOC. NO.	BM61843.06					ISATIS MATIN TARH TECHNICAL & ENGINEERING CO.		REF CODE	-				IASCO CODE	-				ASSEMBLY CODE	3803050039				ORDER NO.	SH157454		REF DRAWING NO.	SP10423-GE11-M0100-SD002-07-001-0								DRAWING NO.	MD8103M1207002001306							
		DOC. NO.	BM61843.06													ISATIS MATIN TARH TECHNICAL & ENGINEERING CO.																																										
		REF CODE	-																																																							
		IASCO CODE	-																																																							
		ASSEMBLY CODE	3803050039												ORDER NO.	SH157454																																										
REF DRAWING NO.	SP10423-GE11-M0100-SD002-07-001-0																																																									
DRAWING NO.	MD8103M1207002001306																																																									
SHEET METAL		ISO 2768-V																																																								
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr><tr><td colspan="2"></td><td></td><td></td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		
<table><tr><td colspan="2">DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/07</td><td rowspan="5">ISO 128 </td><td colspan="5" rowspan="5">SCALE: 1 : 4</td></tr><tr><td colspan="2">1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/09</td></tr><tr><td colspan="2">2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/04/09</td></tr><tr><td colspan="2">APPROVED BY:</td><td>M.ZARE</td><td>1404/04/09</td></tr></table>					DRAWN BY:		S.FALLAH	1403/08/07	ISO 128 	SCALE: 1 : 4					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09	2nd. CHECK BY:		M.ANDISHMAND	1404/04/09	APPROVED BY:		M.ZARE	1404/04/09																																
					DRAWN BY:		S.FALLAH	1403/08/07							ISO 128 	SCALE: 1 : 4																																										
					1st. CHECK BY:		SH.ASADOLLAHI	1403/08/09																																																		
					2nd. CHECK BY:		M.ANDISHMAND	1404/04/09																																																		
					APPROVED BY:		M.ZARE	1404/04/09																																																		



CHEMICAL COMPOSITION & EQUIVALENT MATERIALS



Group: Steels for pressure purposes

[illegible]

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

بازرسی فنی :

TEST CODE	DESCRIPTION OF TEST	STD TEST	INSPECTION TYPE	REQUIRED TEST
-	Analyze of Material	Report of a valid laboratory/co.	R	✓
58	Visual and dimensional check	Draw& specif.	R	✓
-	Fit up	DANIELI 2.8.114 DANIELI 2.8.115	H	
40	Non-destructive examinations "NDT" (collecting) on welding's	DANIELI 2.8.114 DANIELI 2.8.115	R See Table 1	
30,41,42,43,44	Non-destructive examinations "NDT" (collecting) on castings	DANIELI 2.8.004 DANIELI 2.8.005 DANIELI 2.8.017	R See Table 1	
03,04,17,31	Non-destructive examinations "NDT" (collecting) on forgings and rolled bars	DANIELI 2.8.001 DANIELI 2.8.009	R See Table 1	
-	Tensile test	ISO 6892	R	✓
12	Metallographic structure	DANIELI 2.8.004 DANIELI 2.8.017	R	
05,06,13,14,16	Heat treatment cycle	DANIELI 2.8.300	R See Table 2	
11	Hardness measurement	DANIELI 2.8.101	R	
23	Surface hardening depth measurement	ISO 3754	R	
-	Coating	Report of a valid laboratory/co.	R See Table 3	
-	Thick. measurement of coatings	DANIELI 2.8.304 DANIELI 2.8.305	R	
57	Balancing	DANIELI 2.4.102 DANIELI 2.8.105	R	
25	Pressure leak test & proof test	DANIELI 2.8.102	R	
55	Surface Protection Inspection, Painting	DANIELI 2.8.302	R	✓
-	Packing for shipment	DANIELI 2.8.002	H	✓

TABLE 1

			% Non-destructive examinations					
			VT	DT	PT	MT	UT	RT
EDGES								
WELDS (For Structures)	Butt welds							
	Fillet welds and/or partial penetration welds							
	Fillet welds with full penetration							
WELDS (For Piping Systems)	Butt welds							
	Fillet (socket) welds							
CASTING			CLASS		A	B	C	D
FORGING								

TABLE 2

hardening & tempering	Annealing	Normalizing	Quenching	Tempering	Induction hardening	Nitrating	Carburizing	Stress relieving

TABLE 3

COATING	Hard chromium plating	Chrome oxide coating	Coating powders	Zinc galvanizing	Phosphating
REQUIRED TEST					

W (Witness) : حضور و مشاهده بازرس کارفرما حین انجام فرآیند ضروری است یا بازرسی باید به طور کامل توسط بازرس کارفرما صورت گیرد .

R (Review) : بازبینی مدارک QC سازنده و کنترل رندم کفایت دارد.

H (Hold) : ادامه تولید باید با اجازه بازرس کارفرما باشد لذا جهت جلوگیری از وقفه در تولید ،قبلا" تدابیر و هماهنگی لازم صورت گیرد.

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

REQUIREMENT INSTRUMENTS					
✓	Caliper			Pitch gauge	
	Micrometer			Depth gauge	
	Bore gauge			R gauge	
	Gauge blocks			Compass	
	Protractor			Digital indicator	
✓	Meter			Gear tooth Vernier caliper	
Special instruments					

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

بسته بندی و انبار داری :

بدون بسته بندی	حمل به صورت بانديل	پايه يا پالت چوبي	کارتن	جعبه چوبي	صندوق چوبي
					
		✓			

شرایط محافظت از سطوح قطعه :

سطوح ماشین کاری تلرانسی آغشته به روغن یا گریس شوند .
سطوح ماشین کاری تلرانسی با پلاستیک ضربه گیر محافظت شوند .

نکات انبارداری :

دور از تابش مستقیم نور باشد .
نگهداری در انبار رو باز بلا مانع می باشد .
قطعه شکستنی می باشد .
دور از رطوبت نگهداری شود .
جهت جابجایی فقط از مکان های مجاز قابل حمل می باشد .
ورودی و خروجی لوله ها با درپوش بسته باشد .

توضیحات :

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER:

IRAN ALLOY STEEL CO.

CONTRACTOR:

ISATIS MATIN TARH CO.



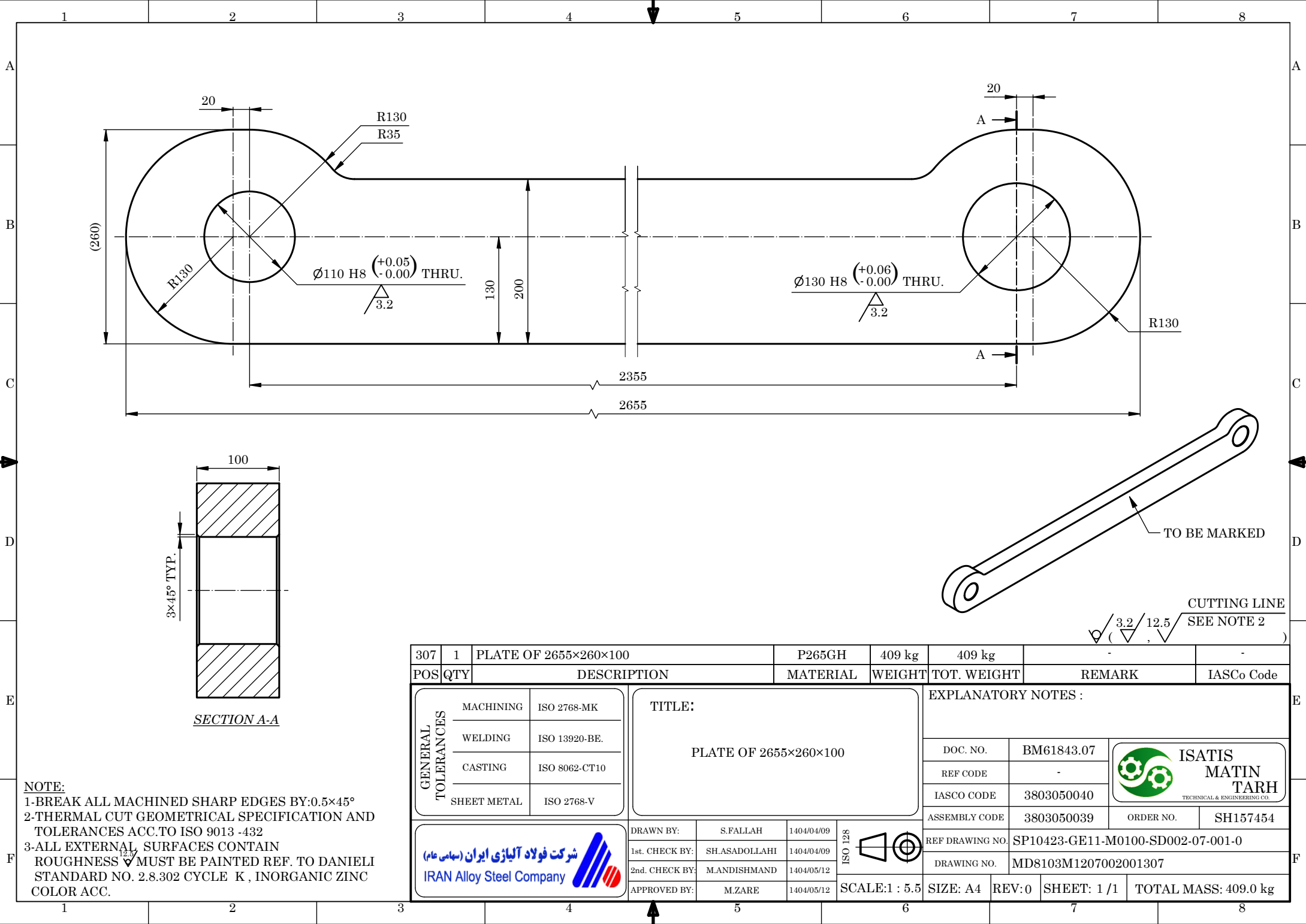
<i>Document NO.</i>	<i>BM61843.07</i>
<i>TITLE :</i>	<i>PLATE OF 2655×260×100</i>
<i>IASCO CODE :</i>	<i>3803050040</i>
<i>REF CODE:</i>	-

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

فهرست مندرجات :

۱	اطلاعات فنی ساخت
	- عکس قطعه یا تجهیز - نقشه ساخت - دستورالعمل جوشکاری (WPS)
۲	اطلاعات مواد اولیه
۳	بازرسی فنی و ابزار آلات اندازه گیری
۴	بسته بندی و انبارداری
۵	نمای سه بعدی (3D PDF)



NOTE:
1-BREAK ALL MACHINED SHARP EDGES BY:0.5×45°
2-THERMAL CUT GEOMETRICAL SPECIFICATION AND TOLERANCES ACC.TO ISO 9013 -432
3-ALL EXTERNAL SURFACES CONTAIN ROUGHNESS $\sqrt{3.2}$ MUST BE PAINTED REF. TO DANIELI STANDARD NO. 2.8.302 CYCLE K, INORGANIC ZINC COLOR ACC.

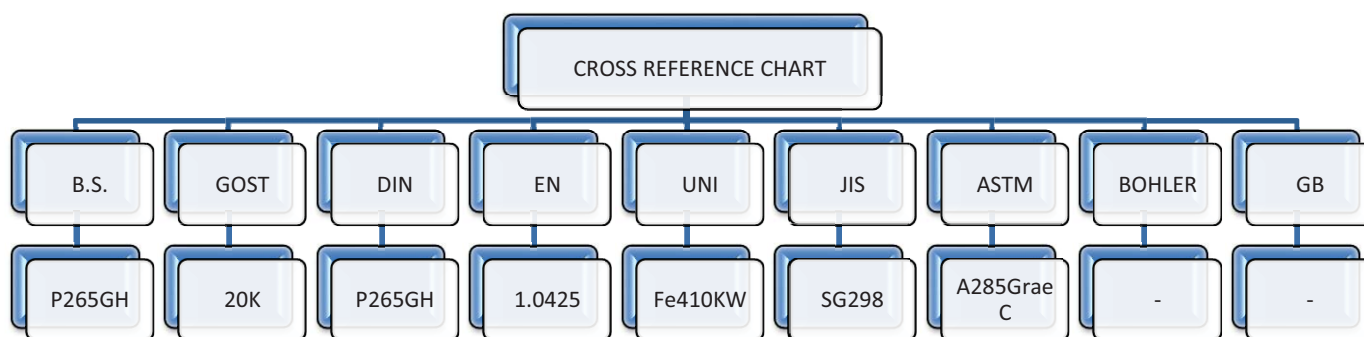
307	1	PLATE OF 2655×260×100		P265GH	409 kg	409 kg	-	-			
POS	QTY	DESCRIPTION		MATERIAL	WEIGHT	TOT. WEIGHT	REMARK	IASCo Code			
GENERAL TOLERANCES	MACHINING	ISO 2768-MK		TITLE: PLATE OF 2655×260×100		EXPLANATORY NOTES :					
	WELDING	ISO 13920-BE.									
	CASTING	ISO 8062-CT10									
	SHEET METAL	ISO 2768-V									
 شرکت فولاد آلیاژی ایران (سهامی عام) IRAN Alloy Steel Company				DRAWN BY:	S.FALLAH	1404/04/09	ISO 128 	DOC. NO.		BM61843.07	 ISATIS MATIN TARH TECHNICAL & ENGINEERING CO.
				1st. CHECK BY:	SH.ASADOLLAHI	1404/04/09		REF CODE		-	
				2nd. CHECK BY:	M.ANDISHMAND	1404/05/12		IASCO CODE		3803050040	
				APPROVED BY:	M.ZARE	1404/05/12		ASSEMBLY CODE		3803050039	ORDER NO.
								SCALE:1 : 5.5		REF DRAWING NO.	
						DRAWING NO.		MD8103M1207002001307			
						SIZE: A4	REV: 0	SHEET: 1 / 1	TOTAL MASS: 409.0 kg		

شرکت فولاد آلیاژی ایران (سهامی عام)

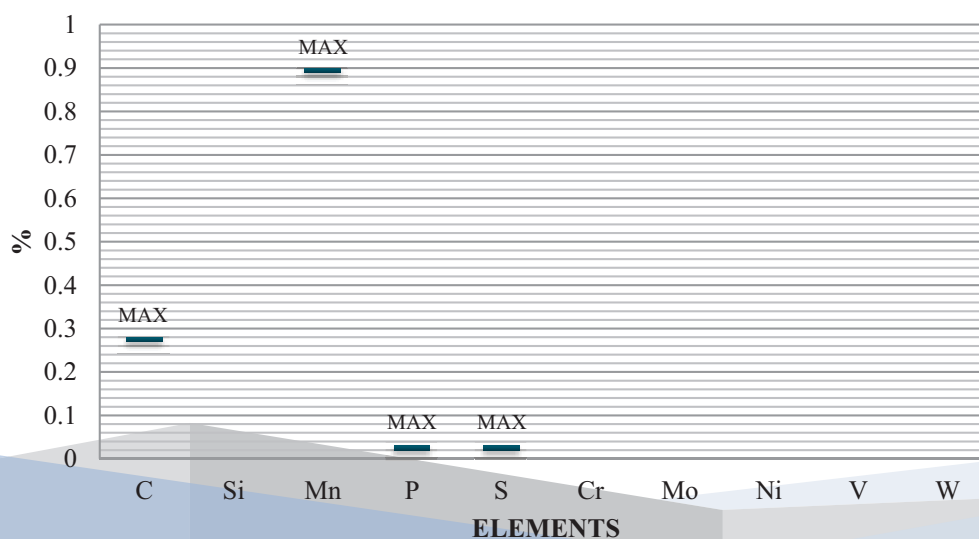


IRAN Alloy Steel Company

CHEMICAL COMPOSITION & EQUIVALENT MATERIALS



Group: Steels for pressure purposes

[illegible]

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

بازرسی فنی :

TEST CODE	DESCRIPTION OF TEST	STD TEST	INSPECTION TYPE	REQUIRED TEST
-	Analyze of Material	Report of a valid laboratory/co.	R	✓
58	Visual and dimensional check	Draw& specif.	R	✓
-	Fit up	DANIELI 2.8.114 DANIELI 2.8.115	H	
40	Non-destructive examinations "NDT" (collecting) on welding's	DANIELI 2.8.114 DANIELI 2.8.115	R See Table 1	
30,41,42,43,44	Non-destructive examinations "NDT" (collecting) on castings	DANIELI 2.8.004 DANIELI 2.8.005 DANIELI 2.8.017	R See Table 1	
03,04,17,31	Non-destructive examinations "NDT" (collecting) on forgings and rolled bars	DANIELI 2.8.001 DANIELI 2.8.009	R See Table 1	
-	Tensile test	ISO 6892	R	✓
12	Metallographic structure	DANIELI 2.8.004 DANIELI 2.8.017	R	
05,06,13,14,16	Heat treatment cycle	DANIELI 2.8.300	R See Table 2	
11	Hardness measurement	DANIELI 2.8.101	R	
23	Surface hardening depth measurement	ISO 3754	R	
-	Coating	Report of a valid laboratory/co.	R See Table 3	
-	Thick. measurement of coatings	DANIELI 2.8.304 DANIELI 2.8.305	R	
57	Balancing	DANIELI 2.4.102 DANIELI 2.8.105	R	
25	Pressure leak test & proof test	DANIELI 2.8.102	R	
55	Surface Protection Inspection, Painting	DANIELI 2.8.302	R	✓
-	Packing for shipment	DANIELI 2.8.002	H	✓

TABLE 1

		% Non-destructive examinations					
		VT	DT	PT	MT	UT	RT
EDGES							
WELDS (For Structures)	Butt welds						
	Fillet welds and/or partial penetration welds						
	Fillet welds with full penetration						
WELDS (For Piping Systems)	Butt welds						
	Fillet (socket) welds						
CASTING		CLASS		A	B	C	D
FORGING							

TABLE 2

hardening & tempering	Annealing	Normalizing	Quenching	Tempering	Induction hardening	Nitrating	Carburizing	Stress relieving

TABLE 3

COATING	Hard chromium plating	Chrome oxide coating	Coating powders	Zinc galvanizing	Phosphating
REQUIRED TEST					

W (Witness) : حضور و مشاهده بازرس کارفرما حین انجام فرآیند ضروری است یا بازرسی باید به طور کامل توسط بازرس کارفرما صورت گیرد .

R (Review) : بازبینی مدارک QC سازنده و کنترل رندم کفایت دارد.

H (Hold) : ادامه تولید باید با اجازه بازرس کارفرما باشد لذا جهت جلوگیری از وقفه در تولید ،قبلا" تدابیر و هماهنگی لازم صورت گیرد.

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

REQUIREMENT INSTRUMENTS					
✓	Caliper			Pitch gauge	
	Micrometer			Depth gauge	
✓	Bore gauge			R gauge	
	Gauge blocks			Compass	
	Protractor			Digital indicator	
✓	Meter			Gear tooth Vernier caliper	
Special instruments					

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

بسته بندی و انبار داری :

بدون بسته بندی	حمل به صورت بانديل	پايه يا پالت چوبي	کارتن	جعبه چوبي	صندوق چوبي
					
		✓			

شرایط محافظت از سطوح قطعه :

سطوح ماشین کاری تلرانسی آغشته به روغن یا گریس شوند .	
سطوح ماشین کاری تلرانسی با پلاستیک ضربه گیر محافظت شوند .	

نکات انبارداری :

دور از تابش مستقیم نور باشد .	
نگهداری در انبار رو باز بلا مانع می باشد .	
قطعه شکستنی می باشد .	
دور از رطوبت نگهداری شود .	✓
جهت جابجایی فقط از مکان های مجاز قابل حمل می باشد.	
ورودی و خروجی لوله ها با درپوش بسته باشد.	

توضیحات :

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER:

IRAN ALLOY STEEL CO.

CONTRACTOR:

ISATIS MATIN TARH CO.



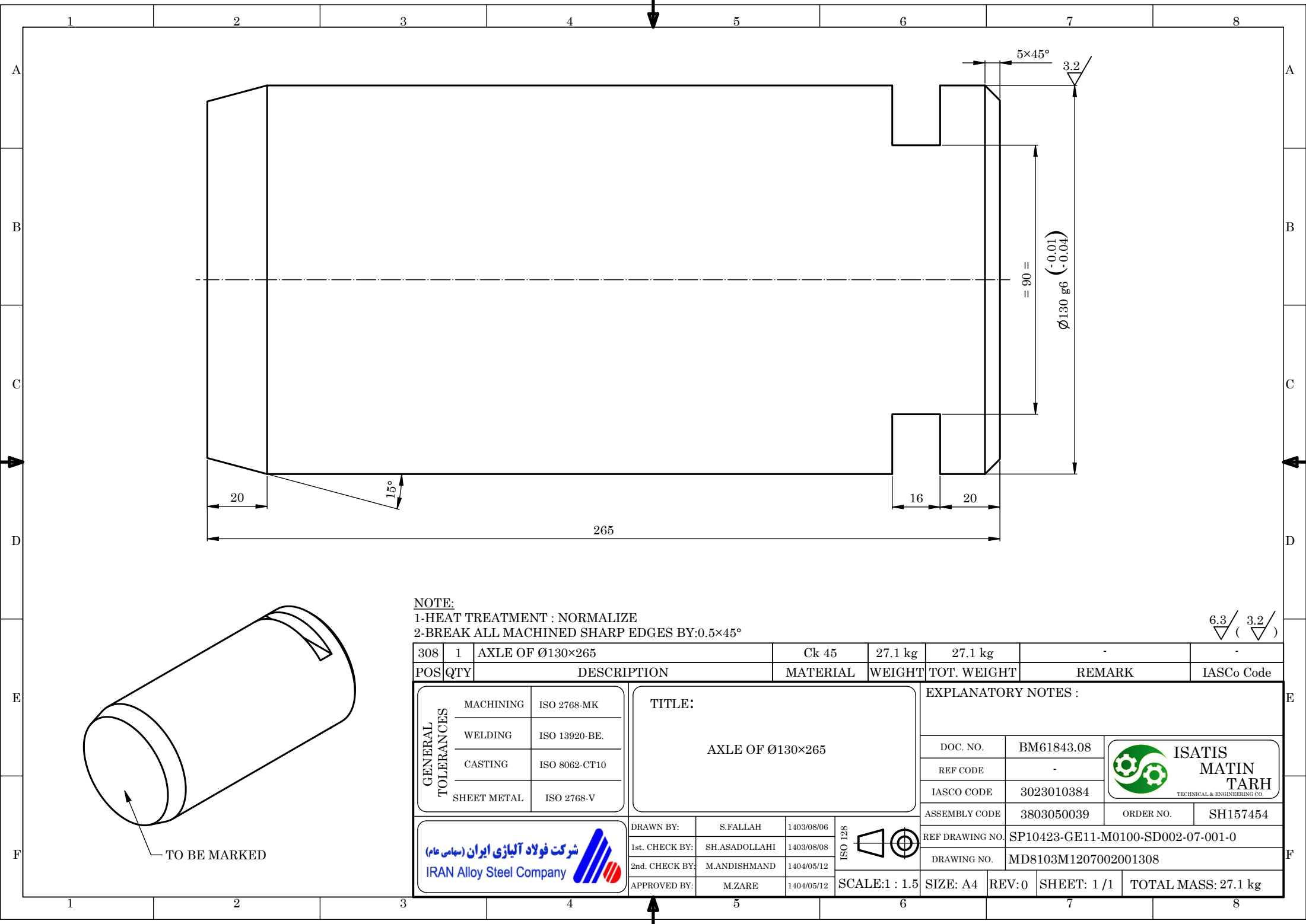
<i>Document NO.</i>	<i>BM61843.08</i>
<i>TITLE :</i>	<i>AXLE OF Ø130×265</i>
<i>IASCO CODE :</i>	<i>3023010384</i>
<i>REF CODE:</i>	<i>-</i>

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

فهرست مندرجات :

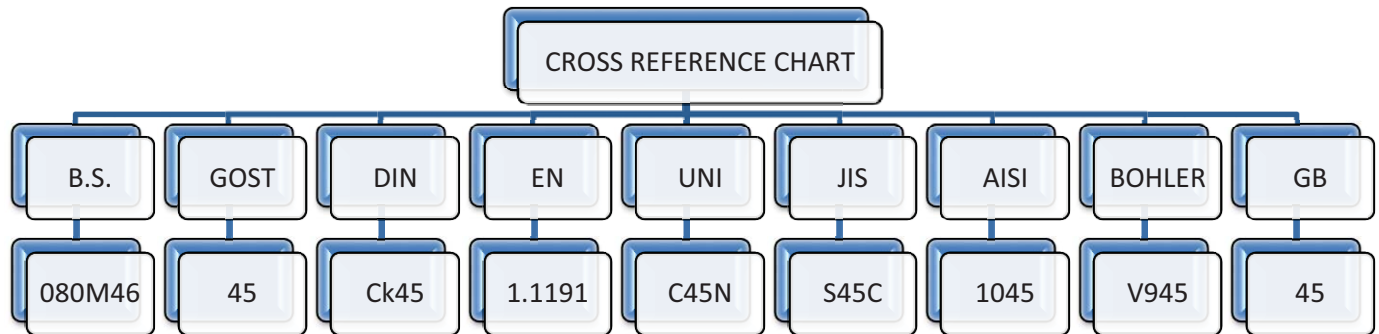
۱	اطلاعات فنی ساخت
	- عکس قطعه یا تجهیز - نقشه ساخت - دستورالعمل جوشکاری (WPS)
۲	اطلاعات مواد اولیه
۳	بازرسی فنی و ابزار آلات اندازه گیری
۴	بسته بندی و انبارداری
۵	نمای سه بعدی (3D PDF)



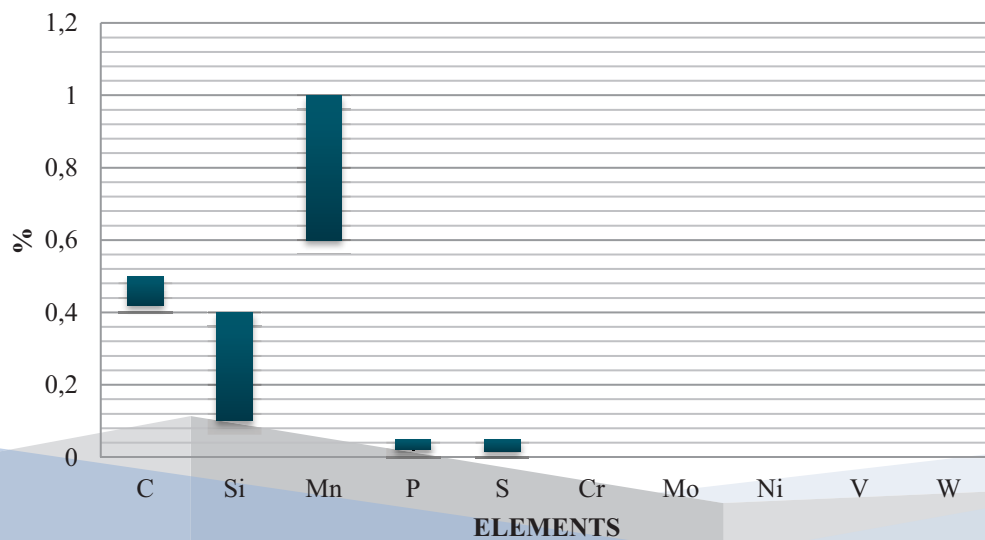
NOTE:
1-HEAT TREATMENT : NORMALIZE
2-BREAK ALL MACHINED SHARP EDGES BY:0.5×45°

308	1	AXLE OF Ø130×265			Ck 45	27.1 kg	27.1 kg	-		-				
POS	QTY	DESCRIPTION			MATERIAL	WEIGHT	TOT. WEIGHT	REMARK			IASCo Code			
GENERAL TOLERANCES	MACHINING		ISO 2768-MK		TITLE: AXLE OF Ø130×265			EXPLANATORY NOTES :						
	WELDING		ISO 13920-BE.											
	CASTING		ISO 8062-CT10											
	SHEET METAL		ISO 2768-V											
شرکت فولاد آلیاژی ایران (سهامی عام) IRAN Alloy Steel Company 					DRAWN BY:	S.FALLAH	1403/08/06	ISO 128 	ASSEMBLY CODE			3803050039	ORDER NO.	SH157454
					1st. CHECK BY:	SH.ASADOLLAHI	1403/08/08		REF DRAWING NO.			SP10423-GE11-M0100-SD002-07-001-0		
					2nd. CHECK BY:	M.ANDISHMAND	1404/05/12		DRAWING NO.			MD8103M1207002001308		
					APPROVED BY:	M.ZARE	1404/05/12		SCALE:1 : 1.5	SIZE: A4	REV:0	SHEET: 1 /1	TOTAL MASS: 27.1 kg	

CHEMICAL COMPOSITION & EQUIVALENT MATERIALS



Group: Quenched and tempered steels



ELEMENT (%)	C	Si	Mn	P	S	Cr	Mo	Ni	V	W
Max	0.5	0.4	1	0.05	0.05					
Min	0.42	0.1	0.6	0.025	0.015					

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

بازرسی فنی :

TEST CODE	DESCRIPTION OF TEST	STD TEST	INSPECTION TYPE	REQUIRED TEST
-	Analyze of Material	Report of a valid laboratory/co.	R	✓
58	Visual and dimensional check	Draw& specif.	R	✓
-	Fit up	DANIELI 2.8.114 DANIELI 2.8.115	H	
40	Non-destructive examinations "NDT" (collecting) on welding's	DANIELI 2.8.114 DANIELI 2.8.115	R See Table 1	
30,41,42,43,44	Non-destructive examinations "NDT" (collecting) on castings	DANIELI 2.8.004 DANIELI 2.8.005 DANIELI 2.8.017	R See Table 1	
03,04,17,31	Non-destructive examinations "NDT" (collecting) on forgings and rolled bars	DANIELI 2.8.001 DANIELI 2.8.009	R See Table 1	
-	Tensile test	ISO 6892	R	
12	Metallographic structure	DANIELI 2.8.004 DANIELI 2.8.017	R	
05,06,13,14,16	Heat treatment cycle	DANIELI 2.8.300	R See Table 2	✓
11	Hardness measurement	DANIELI 2.8.101	R	
23	Surface hardening depth measurement	ISO 3754	R	
-	Coating	Report of a valid laboratory/co.	R See Table 3	
-	Thick. measurement of coatings	DANIELI 2.8.304 DANIELI 2.8.305	R	
57	Balancing	DANIELI 2.4.102 DANIELI 2.8.105	R	
25	Pressure leak test & proof test	DANIELI 2.8.102	R	
55	Surface Protection Inspection, Painting	DANIELI 2.8.302	R	
-	Packing for shipment	DANIELI 2.8.002	H	✓

TABLE 1

		% Non-destructive examinations					
		VT	DT	PT	MT	UT	RT
EDGES							
WELDS (For Structures)	Butt welds						
	Fillet welds and/or partial penetration welds						
	Fillet welds with full penetration						
WELDS (For Piping Systems)	Butt welds						
	Fillet (socket) welds						
CASTING		CLASS		A	B	C	D
FORGING							

TABLE 2

hardening & tempering	Annealing	Normalizing	Quenching	Tempering	Induction hardening	Nitrating	Carburizing	Stress relieving
		✓						

TABLE 3

COATING	Hard chromium plating	Chrome oxide coating	Coating powders	Zinc galvanizing	Phosphating
REQUIRED TEST					

W (Witness) : حضور و مشاهده بازرس کارفرما حین انجام فرآیند ضروری است یا بازرسی باید به طور کامل توسط بازرس کارفرما صورت گیرد .

R (Review) : بازبینی مدارک QC سازنده و کنترل رندم کفایت دارد.

H (Hold) : ادامه تولید باید با اجازه بازرس کارفرما باشد لذا جهت جلوگیری از وقفه در تولید ،قبلا" تدابیر و هماهنگی لازم صورت گیرد.

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

REQUIREMENT INSTRUMENTS					
✓	Caliper			Pitch gauge	
✓	Micrometer			Depth gauge	
	Bore gauge			R gauge	
	Gauge blocks			Compass	
	Protractor			Digital indicator	
✓	Meter			Gear tooth Vernier caliper	
Special instruments					

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

بسته بندی و انبار داری :

بدون بسته بندی	حمل به صورت بانديل	پايه يا پالت چوبي	کارتن	جعبه چوبي	صندوق چوبي
					
				✓	

شرایط محافظت از سطوح قطعه :

سطوح ماشین کاری تلرانسی آغشته به روغن یا گریس شوند .	
سطوح ماشین کاری تلرانسی با پلاستیک ضربه گیر محافظت شوند .	✓

نکات انبارداری :

دور از تابش مستقیم نور باشد .	
نگهداری در انبار رو باز بلا مانع می باشد .	
قطعه شکستنی می باشد .	
دور از رطوبت نگهداری شود .	✓
جهت جابجایی فقط از مکان های مجاز قابل حمل می باشد.	
ورودی و خروجی لوله ها با درپوش بسته باشد.	

توضیحات :

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER:

IRAN ALLOY STEEL CO.

CONTRACTOR:

ISATIS MATIN TARH CO.



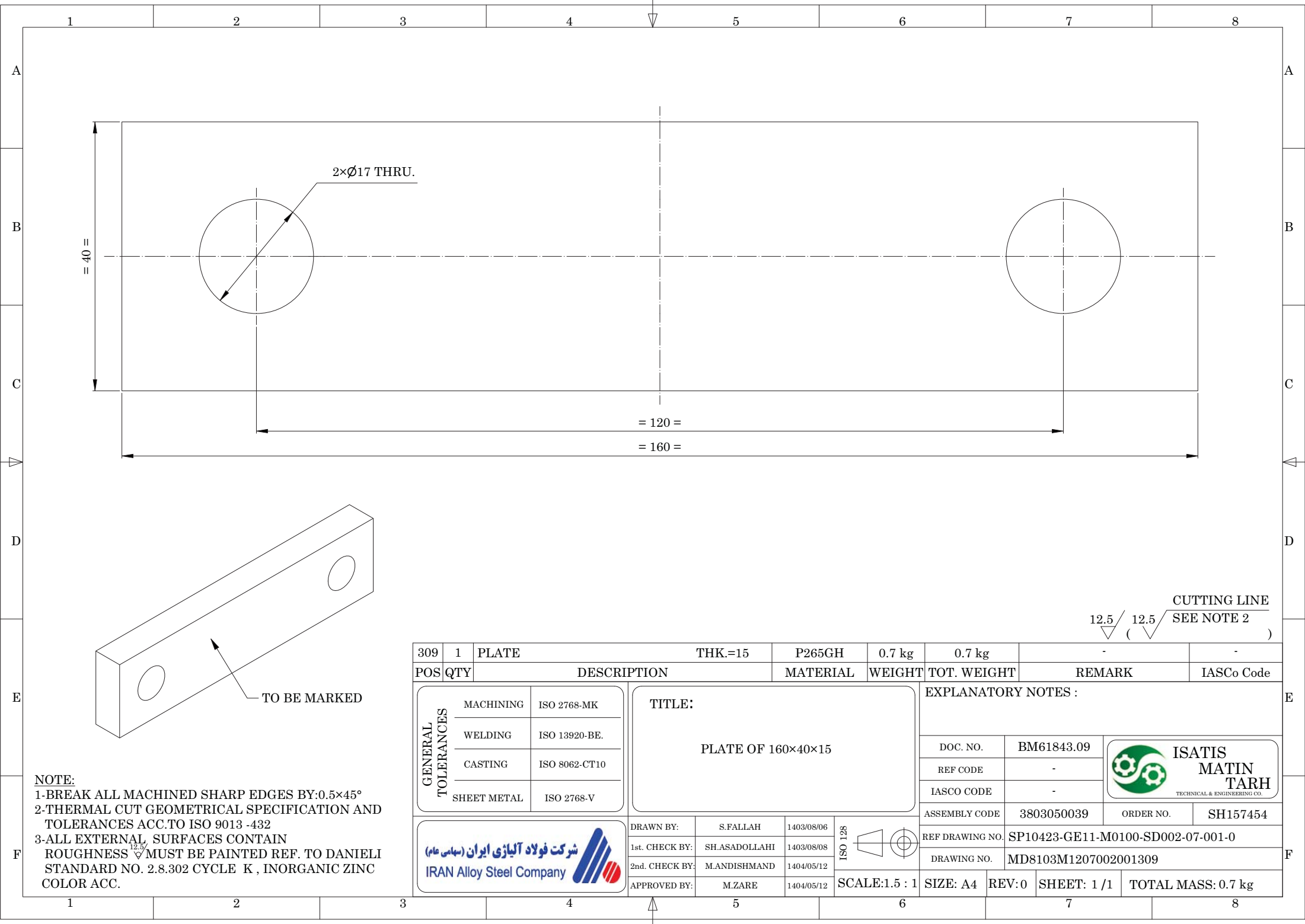
<i>Document NO.</i>	<i>BM61843.09</i>
<i>TITLE :</i>	<i>PLATE OF 160×40×15</i>
<i>IASCO CODE :</i>	-
<i>REF CODE:</i>	-

TECHNICAL SPECIFICATION DOCUMENT

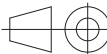
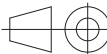
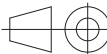
EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

فهرست مندرجات :

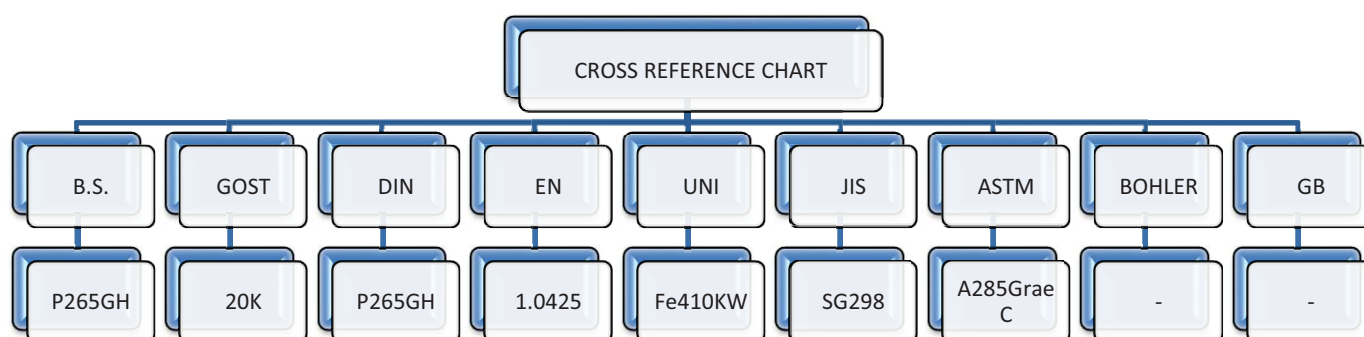
۱	اطلاعات فنی ساخت
	- عکس قطعه یا تجهیز - نقشه ساخت - دستورالعمل جوشکاری (WPS)
۲	اطلاعات مواد اولیه
۳	بازرسی فنی و ابزار آلات اندازه گیری
۴	بسته بندی و انبارداری
۵	نمای سه بعدی (3D PDF)



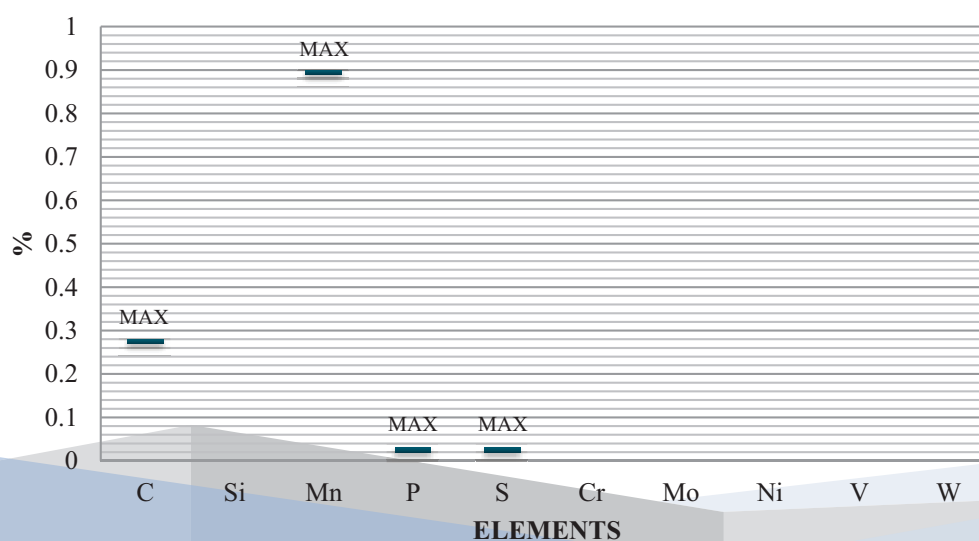
NOTE:
1-BREAK ALL MACHINED SHARP EDGES BY:0.5×45°
2-THERMAL CUT GEOMETRICAL SPECIFICATION AND TOLERANCES ACC.TO ISO 9013 -432
3-ALL EXTERNAL SURFACES CONTAIN ROUGHNESS $\sqrt{12.5}$ MUST BE PAINTED REF. TO DANIELI STANDARD NO. 2.8.302 CYCLE K , INORGANIC ZINC COLOR ACC.

309	1	PLATE	THK.=15	P265GH	0.7 kg	0.7 kg	-	-																																
POS	QTY	DESCRIPTION			MATERIAL	WEIGHT	TOT. WEIGHT	REMARK	IASCo Code																															
GENERAL TOLERANCES	MACHINING	ISO 2768-MK			EXPLANATORY NOTES : <table><tr><td>DOC. NO.</td><td colspan="2">BM61843.09</td><td rowspan="3"></td></tr><tr><td>REF CODE</td><td colspan="2">-</td></tr><tr><td>IASCO CODE</td><td colspan="2">-</td></tr><tr><td>ASSEMBLY CODE</td><td colspan="2">3803050039</td><td>ORDER NO.</td><td>SH157454</td></tr><tr><td>REF DRAWING NO.</td><td colspan="4">SP10423-GE11-M0100-SD002-07-001-0</td></tr><tr><td>DRAWING NO.</td><td colspan="4">MD8103M1207002001309</td></tr><tr><td>SCALE:1.5 : 1</td><td>SIZE: A4</td><td>REV:0</td><td>SHEET: 1 / 1</td><td colspan="2">TOTAL MASS: 0.7 kg</td></tr></table>					DOC. NO.	BM61843.09			REF CODE	-		IASCO CODE	-		ASSEMBLY CODE	3803050039		ORDER NO.	SH157454	REF DRAWING NO.	SP10423-GE11-M0100-SD002-07-001-0				DRAWING NO.	MD8103M1207002001309				SCALE:1.5 : 1	SIZE: A4	REV:0	SHEET: 1 / 1	TOTAL MASS: 0.7 kg	
	DOC. NO.	BM61843.09																																						
	REF CODE	-																																						
	IASCO CODE	-																																						
	ASSEMBLY CODE	3803050039		ORDER NO.						SH157454																														
REF DRAWING NO.	SP10423-GE11-M0100-SD002-07-001-0																																							
DRAWING NO.	MD8103M1207002001309																																							
SCALE:1.5 : 1	SIZE: A4	REV:0	SHEET: 1 / 1	TOTAL MASS: 0.7 kg																																				
WELDING	ISO 13920-BE.																																							
CASTING	ISO 8062-CT10																																							
SHEET METAL	ISO 2768-V																																							
 <table><tr><td>DRAWN BY:</td><td>S.FALLAH</td><td>1403/08/06</td><td rowspan="4">ISO 128 </td></tr><tr><td>1st. CHECK BY:</td><td>SH.ASADOLLAHI</td><td>1403/08/08</td></tr><tr><td>2nd. CHECK BY:</td><td>M.ANDISHMAND</td><td>1404/05/12</td></tr><tr><td>APPROVED BY:</td><td>M.ZARE</td><td>1404/05/12</td></tr></table>					DRAWN BY:	S.FALLAH	1403/08/06	ISO 128 	1st. CHECK BY:	SH.ASADOLLAHI	1403/08/08	2nd. CHECK BY:	M.ANDISHMAND	1404/05/12	APPROVED BY:	M.ZARE	1404/05/12																							
					DRAWN BY:	S.FALLAH	1403/08/06		ISO 128 																															
					1st. CHECK BY:	SH.ASADOLLAHI	1403/08/08																																	
					2nd. CHECK BY:	M.ANDISHMAND	1404/05/12																																	
					APPROVED BY:	M.ZARE	1404/05/12																																	
TITLE: PLATE OF 160×40×15																																								

CHEMICAL COMPOSITION & EQUIVALENT MATERIALS



Group: Steels for pressure purposes

[illegible]

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

بازرسی فنی :

TEST CODE	DESCRIPTION OF TEST	STD TEST	INSPECTION TYPE	REQUIRED TEST
-	Analyze of Material	Report of a valid laboratory/co.	R	✓
58	Visual and dimensional check	Draw& specif.	R	✓
-	Fit up	DANIELI 2.8.114 DANIELI 2.8.115	H	
40	Non-destructive examinations "NDT" (collecting) on welding's	DANIELI 2.8.114 DANIELI 2.8.115	R See Table 1	
30,41,42,43,44	Non-destructive examinations "NDT" (collecting) on castings	DANIELI 2.8.004 DANIELI 2.8.005 DANIELI 2.8.017	R See Table 1	
03,04,17,31	Non-destructive examinations "NDT" (collecting) on forgings and rolled bars	DANIELI 2.8.001 DANIELI 2.8.009	R See Table 1	
-	Tensile test	ISO 6892	R	✓
12	Metallographic structure	DANIELI 2.8.004 DANIELI 2.8.017	R	
05,06,13,14,16	Heat treatment cycle	DANIELI 2.8.300	R See Table 2	
11	Hardness measurement	DANIELI 2.8.101	R	
23	Surface hardening depth measurement	ISO 3754	R	
-	Coating	Report of a valid laboratory/co.	R See Table 3	
-	Thick. measurement of coatings	DANIELI 2.8.304 DANIELI 2.8.305	R	
57	Balancing	DANIELI 2.4.102 DANIELI 2.8.105	R	
25	Pressure leak test & proof test	DANIELI 2.8.102	R	
55	Surface Protection Inspection, Painting	DANIELI 2.8.302	R	✓
-	Packing for shipment	DANIELI 2.8.002	H	✓

TABLE 1

		% Non-destructive examinations					
		VT	DT	PT	MT	UT	RT
EDGES							
WELDS (For Structures)	Butt welds						
	Fillet welds and/or partial penetration welds						
	Fillet welds with full penetration						
WELDS (For Piping Systems)	Butt welds						
	Fillet (socket) welds						
CASTING		CLASS		A	B	C	D
FORGING							

TABLE 2

hardening & tempering	Annealing	Normalizing	Quenching	Tempering	Induction hardening	Nitrating	Carburizing	Stress relieving

TABLE 3

COATING	Hard chromium plating	Chrome oxide coating	Coating powders	Zinc galvanizing	Phosphating
REQUIRED TEST					

W (Witness) : حضور و مشاهده بازرس کارفرما حین انجام فرآیند ضروری است یا بازرسی باید به طور کامل توسط بازرس کارفرما صورت گیرد .

R (Review) : بازبینی مدارک QC سازنده و کنترل رندم کفایت دارد.

H (Hold) : ادامه تولید باید با اجازه بازرس کارفرما باشد لذا جهت جلوگیری از وقفه در تولید ،قبلا" تدابیر و هماهنگی لازم صورت گیرد.

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

REQUIREMENT INSTRUMENTS					
✓	Caliper			Pitch gauge	
	Micrometer			Depth gauge	
	Bore gauge			R gauge	
	Gauge blocks			Compass	
	Protractor			Digital indicator	
✓	Meter			Gear tooth Vernier caliper	
Special instruments					

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

بسته بندی و انبار داری :

بدون بسته بندی	حمل به صورت بانديل	پايه يا پالت چوبي	کارتن	جعبه چوبي	صندوق چوبي
					
		✓			

شرایط محافظت از سطوح قطعه :

سطوح ماشین کاری تلرانسی آغشته به روغن یا گریس شوند .	
سطوح ماشین کاری تلرانسی با پلاستیک ضربه گیر محافظت شوند .	

نکات انبارداری :

دور از تابش مستقیم نور باشد .	
نگهداری در انبار رو باز بلا مانع می باشد .	
قطعه شکستنی می باشد .	
دور از رطوبت نگهداری شود .	✓
جهت جابجایی فقط از مکان های مجاز قابل حمل می باشد.	
ورودی و خروجی لوله ها با درپوش بسته باشد.	

توضیحات :

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER:

IRAN ALLOY STEEL CO.

CONTRACTOR:

ISATIS MATIN TARH CO.



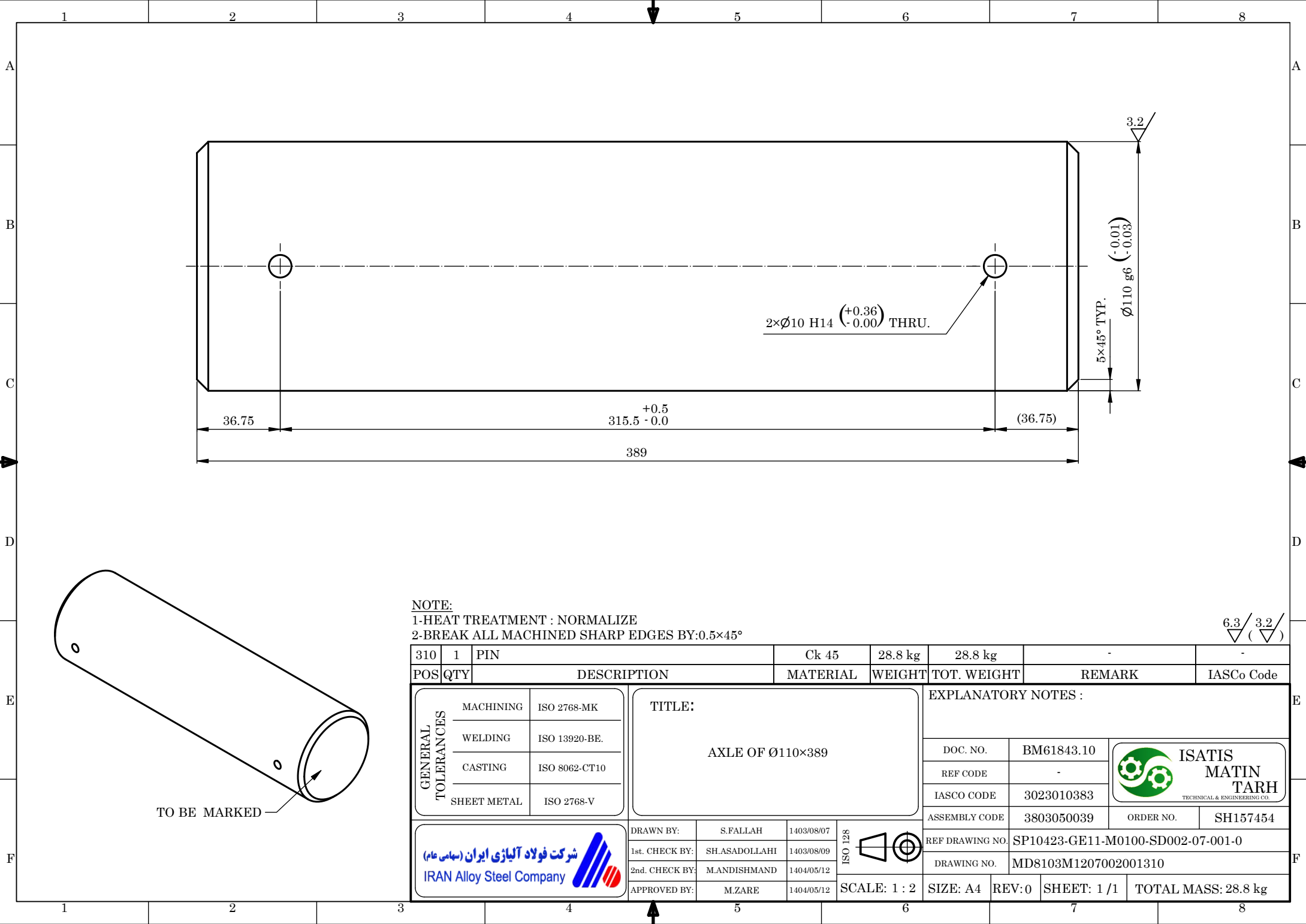
<i>Document NO.</i>	<i>BM61843.10</i>
<i>TITLE :</i>	<i>AXLE OF Ø110×389</i>
<i>IASCO CODE :</i>	<i>3023010383</i>
<i>REF CODE:</i>	<i>-</i>

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

فهرست مندرجات :

۱	اطلاعات فنی ساخت
	- عکس قطعه یا تجهیز - نقشه ساخت - دستورالعمل جوشکاری (WPS)
۲	اطلاعات مواد اولیه
۳	بازرسی فنی و ابزار آلات اندازه گیری
۴	بسته بندی و انبارداری
۵	نمای سه بعدی (3D PDF)

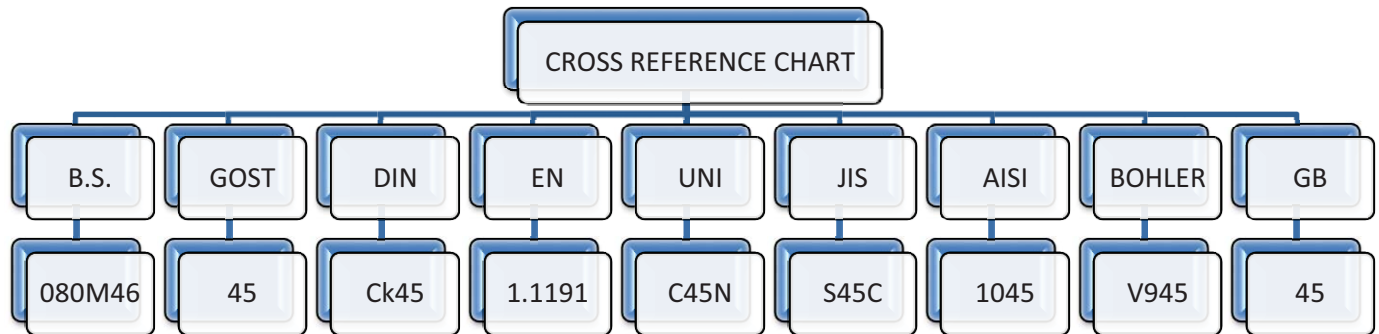


NOTE:
1-HEAT TREATMENT : NORMALIZE
2-BREAK ALL MACHINED SHARP EDGES BY:0.5×45°

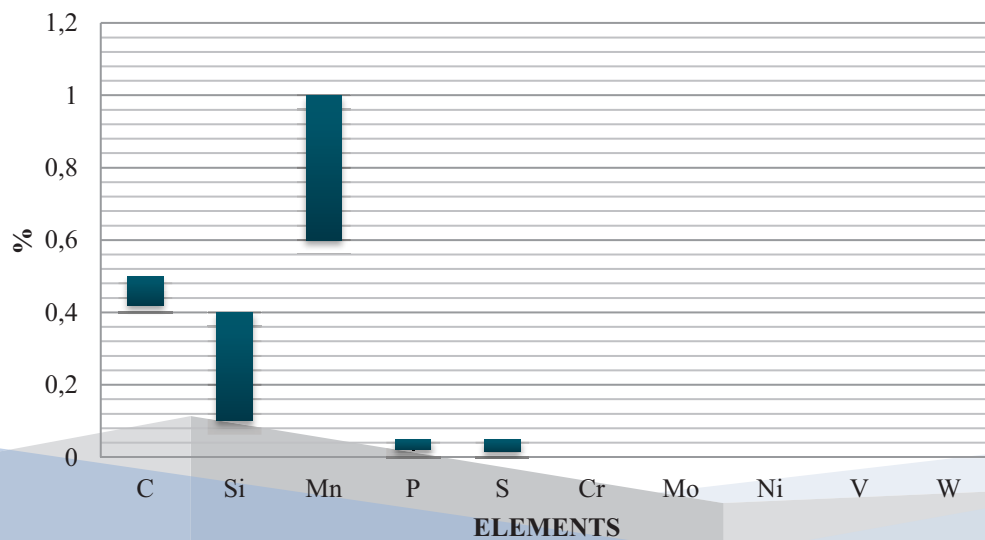
310	1	PIN	Ck 45	28.8 kg	28.8 kg	-	-			
POS	QTY	DESCRIPTION	MATERIAL	WEIGHT	TOT. WEIGHT	REMARK	IASCo Code			
GENERAL TOLERANCES	MACHINING	ISO 2768-MK	TITLE: AXLE OF Ø110×389		EXPLANATORY NOTES :					
	WELDING	ISO 13920-BE.								
	CASTING	ISO 8062-CT10								
	SHEET METAL	ISO 2768-V								
شرکت فولاد آلیاژی ایران (سهامی عام) IRAN Alloy Steel Company			DRAWN BY:	S.FALLAH	1403/08/07	ISO 128	DOC. NO.		BM61843.10	ISATIS MATIN TARH TECHNICAL & ENGINEERING CO.
			1st. CHECK BY:	SH.ASADOLLAHI	1403/08/09		REF CODE		-	
			2nd. CHECK BY:	M.ANDISHMAND	1404/05/12		IASCO CODE		3023010383	
			APPROVED BY:	M.ZARE	1404/05/12		ASSEMBLY CODE		3803050039	ORDER NO.
			SCALE: 1 : 2		SIZE: A4	REV:0	SHEET: 1 / 1	TOTAL MASS: 28.8 kg		



CHEMICAL COMPOSITION & EQUIVALENT MATERIALS



Group: Quenched and tempered steels



ELEMENT (%)	C	Si	Mn	P	S	Cr	Mo	Ni	V	W
Max	0.5	0.4	1	0.05	0.05					
Min	0.42	0.1	0.6	0.025	0.015					

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

بازرسی فنی :

TEST CODE	DESCRIPTION OF TEST	STD TEST	INSPECTION TYPE	REQUIRED TEST
-	Analyze of Material	Report of a valid laboratory/co.	R	✓
58	Visual and dimensional check	Draw& specif.	R	✓
-	Fit up	DANIELI 2.8.114 DANIELI 2.8.115	H	
40	Non-destructive examinations "NDT" (collecting) on welding's	DANIELI 2.8.114 DANIELI 2.8.115	R See Table 1	
30,41,42,43,44	Non-destructive examinations "NDT" (collecting) on castings	DANIELI 2.8.004 DANIELI 2.8.005 DANIELI 2.8.017	R See Table 1	
03,04,17,31	Non-destructive examinations "NDT" (collecting) on forgings and rolled bars	DANIELI 2.8.001 DANIELI 2.8.009	R See Table 1	
-	Tensile test	ISO 6892	R	
12	Metallographic structure	DANIELI 2.8.004 DANIELI 2.8.017	R	
05,06,13,14,16	Heat treatment cycle	DANIELI 2.8.300	R See Table 2	✓
11	Hardness measurement	DANIELI 2.8.101	R	
23	Surface hardening depth measurement	ISO 3754	R	
-	Coating	Report of a valid laboratory/co.	R See Table 3	
-	Thick. measurement of coatings	DANIELI 2.8.304 DANIELI 2.8.305	R	
57	Balancing	DANIELI 2.4.102 DANIELI 2.8.105	R	
25	Pressure leak test & proof test	DANIELI 2.8.102	R	
55	Surface Protection Inspection, Painting	DANIELI 2.8.302	R	
-	Packing for shipment	DANIELI 2.8.002	H	✓

TABLE 1

		% Non-destructive examinations					
		VT	DT	PT	MT	UT	RT
EDGES							
WELDS (For Structures)	Butt welds						
	Fillet welds and/or partial penetration welds						
	Fillet welds with full penetration						
WELDS (For Piping Systems)	Butt welds						
	Fillet (socket) welds						
CASTING		CLASS		A	B	C	D
FORGING							

TABLE 2

hardening & tempering	Annealing	Normalizing	Quenching	Tempering	Induction hardening	Nitrating	Carburizing	Stress relieving
		✓						

TABLE 3

COATING	Hard chromium plating	Chrome oxide coating	Coating powders	Zinc galvanizing	Phosphating
REQUIRED TEST					

W (Witness) : حضور و مشاهده بازرس کارفرما حین انجام فرآیند ضروری است یا بازرسی باید به طور کامل توسط بازرس کارفرما صورت گیرد .

R (Review) : بازبینی مدارک QC سازنده و کنترل رندم کفایت دارد.

H (Hold) : ادامه تولید باید با اجازه بازرس کارفرما باشد لذا جهت جلوگیری از وقفه در تولید ،قبلا" تدابیر و هماهنگی لازم صورت گیرد.

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

REQUIREMENT INSTRUMENTS					
✓	Caliper		✓	Pitch gauge	
✓	Micrometer			Depth gauge	
	Bore gauge			R gauge	
	Gauge blocks			Compass	
	Protractor			Digital indicator	
✓	Meter			Gear tooth Vernier caliper	
Special instruments					

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

بسته بندی و انبار داری :

بدون بسته بندی	حمل به صورت بانديل	پايه يا پالت چوبي	کارتن	جعبه چوبي	صندوق چوبي
					
			✓		

شرایط محافظت از سطوح قطعه :

سطوح ماشین کاری تلرانسی آغشته به روغن یا گریس شوند .
سطوح ماشین کاری تلرانسی با پلاستیک ضربه گیر محافظت شوند .

✓

نکات انبارداری :

دور از تابش مستقیم نور باشد .
نگهداری در انبار رو باز بلا مانع می باشد .
قطعه شکستنی می باشد .
دور از رطوبت نگهداری شود .
جهت جابجایی فقط از مکان های مجاز قابل حمل می باشد.
ورودی و خروجی لوله ها با درپوش بسته باشد.

✓

توضیحات :

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER:

IRAN ALLOY STEEL CO.

CONTRACTOR:

ISATIS MATIN TARH CO.



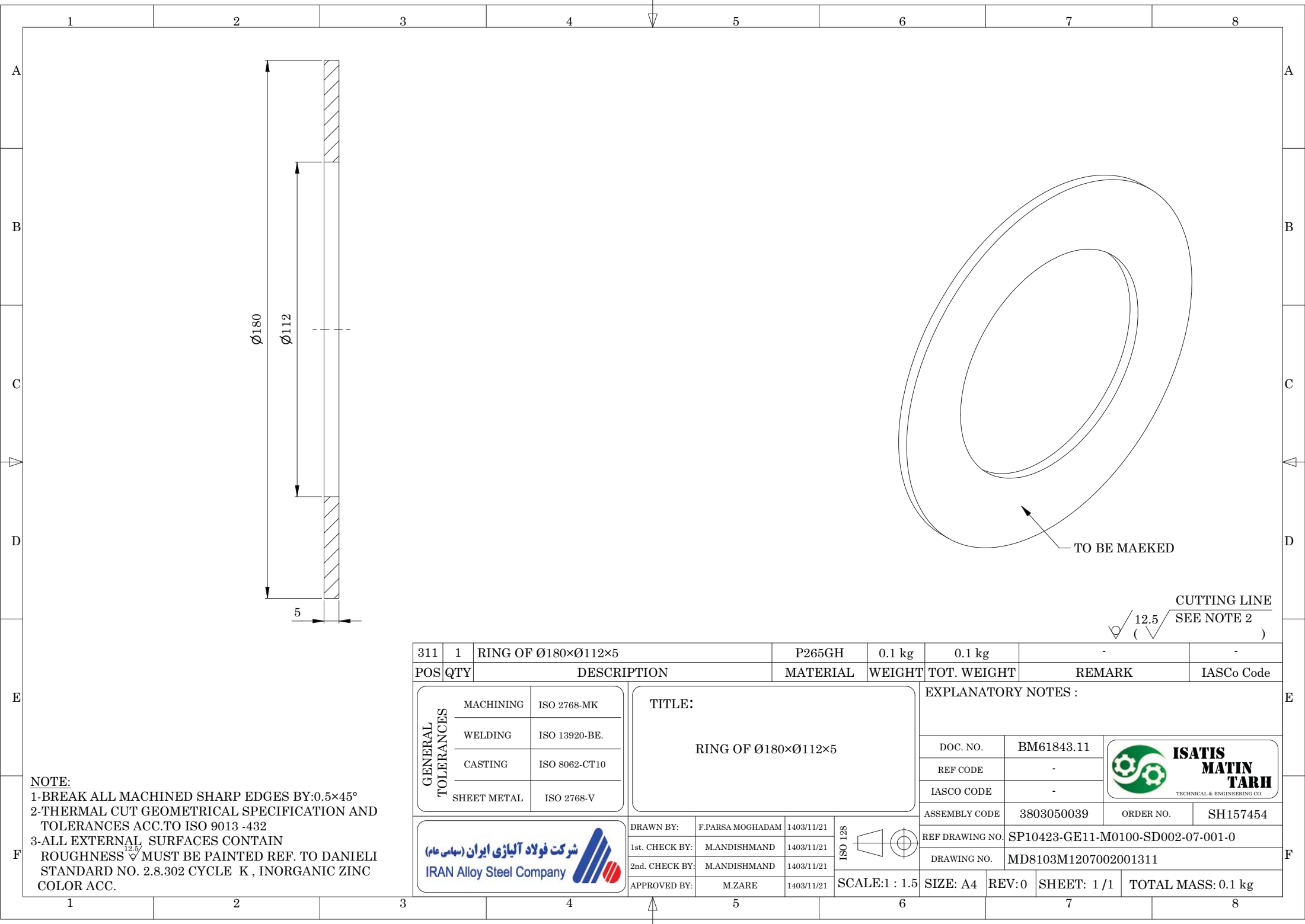
<i>Document NO.</i>	<i>BM61843.11</i>
<i>TITLE :</i>	<i>RING OF Ø180×Ø112×5</i>
<i>IASCO CODE :</i>	-
<i>REF CODE:</i>	-

TECHNICAL SPECIFICATION DOCUMENT

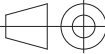
EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

فهرست مندرجات :

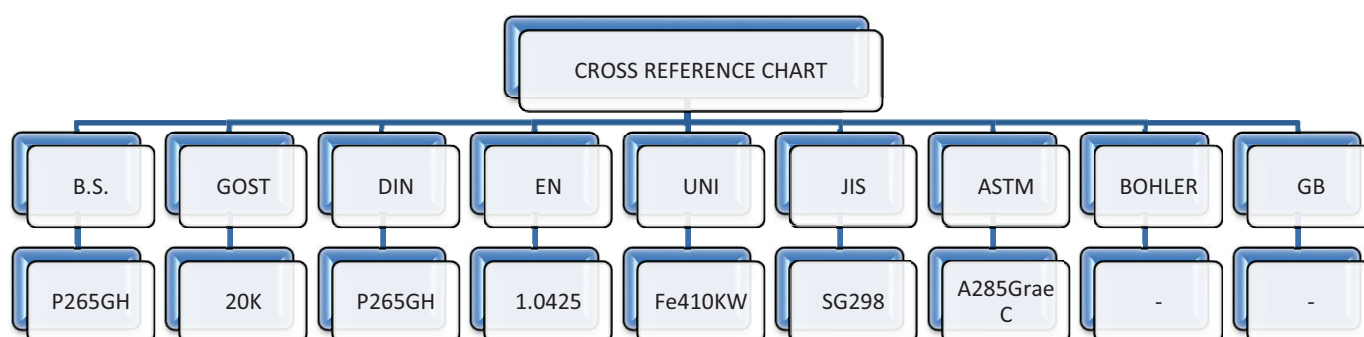
۱	اطلاعات فنی ساخت
	- عکس قطعه یا تجهیز - نقشه ساخت - دستورالعمل جوشکاری (WPS)
۲	اطلاعات مواد اولیه
۳	بازرسی فنی و ابزار آلات اندازه گیری
۴	بسته بندی و انبارداری
۵	نمای سه بعدی (3D PDF)



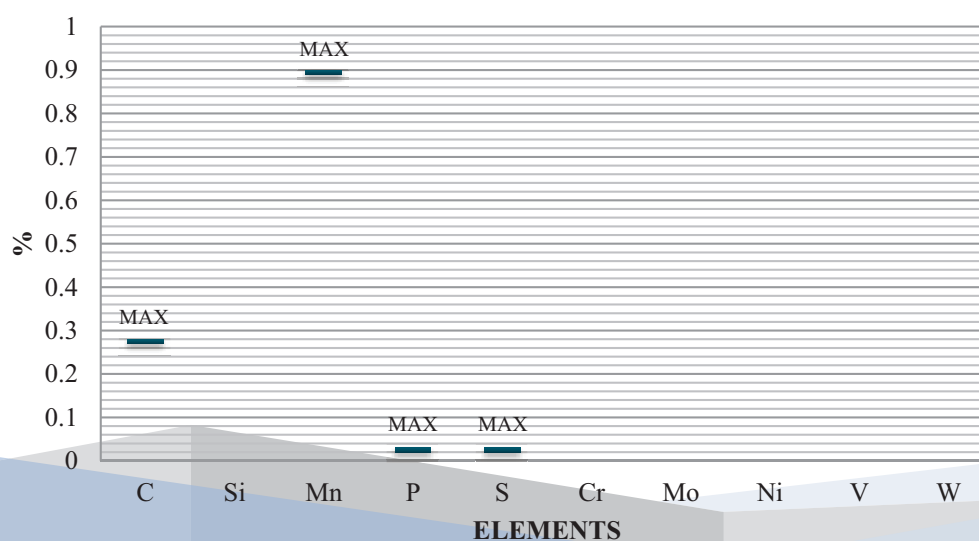
NOTE:
1-BREAK ALL MACHINED SHARP EDGES BY:0.5×45°
2-THERMAL CUT GEOMETRICAL SPECIFICATION AND TOLERANCES ACC.TO ISO 9013 -432
3-ALL EXTERNAL SURFACES CONTAIN ROUGHNESS $\sqrt{12.5}$ MUST BE PAINTED REF. TO DANIELI STANDARD NO. 2.8.302 CYCLE K , INORGANIC ZINC COLOR ACC.

311	1	RING OF Ø180×Ø112×5			P265GH	0.1 kg	0.1 kg	-	-				
POS	QTY	DESCRIPTION			MATERIAL	WEIGHT	TOT. WEIGHT	REMARK	IASCo Code				
GENERAL TOLERANCES	MACHINING	ISO 2768-MK			TITLE: RING OF Ø180×Ø112×5								
	WELDING	ISO 13920-BE.											
	CASTING	ISO 8062-CT10											
	SHEET METAL	ISO 2768-V											
شرکت فولاد آلیاژی ایران (سهامی عام) IRAN Alloy Steel Company 					DRAWN BY:	F.PARSA MOGHADAM	1403/11/21	ISO 128		EXPLANATORY NOTES :			
					1st. CHECK BY:	M.ANDISHMAND	1403/11/21			DOC. NO.	BM61843.11	 ISATIS MATIN TARH TECHNICAL & ENGINEERING CO.	
					2nd. CHECK BY:	M.ANDISHMAND	1403/11/21			REF CODE	-		
					APPROVED BY:	M.ZARE	1403/11/21	IASCO CODE	-	ASSEMBLY CODE	3803050039		
									REF DRAWING NO.	SP10423-GE11-M0100-SD002-07-001-0			
									DRAWING NO.	MD8103M1207002001311			
				SCALE:1 : 1.5	SIZE: A4	REV:0	SHEET: 1 / 1	TOTAL MASS: 0.1 kg					

CHEMICAL COMPOSITION & EQUIVALENT MATERIALS



Group: Steels for pressure purposes

[illegible]

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

بازرسی فنی :

TEST CODE	DESCRIPTION OF TEST	STD TEST	INSPECTION TYPE	REQUIRED TEST
-	Analyze of Material	Report of a valid laboratory/co.	R	✓
58	Visual and dimensional check	Draw& specif.	R	✓
-	Fit up	DANIELI 2.8.114 DANIELI 2.8.115	H	
40	Non-destructive examinations "NDT" (collecting) on welding's	DANIELI 2.8.114 DANIELI 2.8.115	R See Table 1	
30,41,42,43,44	Non-destructive examinations "NDT" (collecting) on castings	DANIELI 2.8.004 DANIELI 2.8.005 DANIELI 2.8.017	R See Table 1	
03,04,17,31	Non-destructive examinations "NDT" (collecting) on forgings and rolled bars	DANIELI 2.8.001 DANIELI 2.8.009	R See Table 1	
-	Tensile test	ISO 6892	R	✓
12	Metallographic structure	DANIELI 2.8.004 DANIELI 2.8.017	R	
05,06,13,14,16	Heat treatment cycle	DANIELI 2.8.300	R See Table 2	
11	Hardness measurement	DANIELI 2.8.101	R	
23	Surface hardening depth measurement	ISO 3754	R	
-	Coating	Report of a valid laboratory/co.	R See Table 3	
-	Thick. measurement of coatings	DANIELI 2.8.304 DANIELI 2.8.305	R	
57	Balancing	DANIELI 2.4.102 DANIELI 2.8.105	R	
25	Pressure leak test & proof test	DANIELI 2.8.102	R	
55	Surface Protection Inspection, Painting	DANIELI 2.8.302	R	
-	Packing for shipment	DANIELI 2.8.002	H	✓

TABLE 1

		% Non-destructive examinations					
		VT	DT	PT	MT	UT	RT
EDGES							
WELDS (For Structures)	Butt welds						
	Fillet welds and/or partial penetration welds						
	Fillet welds with full penetration						
WELDS (For Piping Systems)	Butt welds						
	Fillet (socket) welds						
CASTING		CLASS		A	B	C	D
FORGING							

TABLE 2

hardening & tempering	Annealing	Normalizing	Quenching	Tempering	Induction hardening	Nitrating	Carburizing	Stress relieving

TABLE 3

COATING	Hard chromium plating	Chrome oxide coating	Coating powders	Zinc galvanizing	Phosphating
REQUIRED TEST					

W (Witness) : حضور و مشاهده بازرس کارفرما حین انجام فرآیند ضروری است یا بازرسی باید به طور کامل توسط بازرس کارفرما صورت گیرد .

R (Review) : بازبینی مدارک QC سازنده و کنترل رندم کفایت دارد.

H (Hold) : ادامه تولید باید با اجازه بازرس کارفرما باشد لذا جهت جلوگیری از وقفه در تولید ،قبلا" تدابیر و هماهنگی لازم صورت گیرد.

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

REQUIREMENT INSTRUMENTS					
✓	Caliper			Pitch gauge	
	Micrometer			Depth gauge	
	Bore gauge			R gauge	
	Gauge blocks			Compass	
	Protractor			Digital indicator	
	Meter			Gear tooth Vernier caliper	
Special instruments					

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

بسته بندی و انبار داری :

بدون بسته بندی	حمل به صورت بانديل	پايه يا پالت چوبي	کارتن	جعبه چوبي	صندوق چوبي
					
			✓		

شرایط محافظت از سطوح قطعه :

سطوح ماشین کاری تلرانسی آغشته به روغن یا گریس شوند .	
سطوح ماشین کاری تلرانسی با پلاستیک ضربه گیر محافظت شوند .	

نکات انبارداری :

دور از تابش مستقیم نور باشد .	
نگهداری در انبار رو باز بلا مانع می باشد .	
قطعه شکستنی می باشد .	
دور از رطوبت نگهداری شود .	✓
جهت جابجایی فقط از مکان های مجاز قابل حمل می باشد.	
ورودی و خروجی لوله ها با درپوش بسته باشد.	

توضیحات :

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER:

IRAN ALLOY STEEL CO.

CONTRACTOR:

ISATIS MATIN TARH CO.



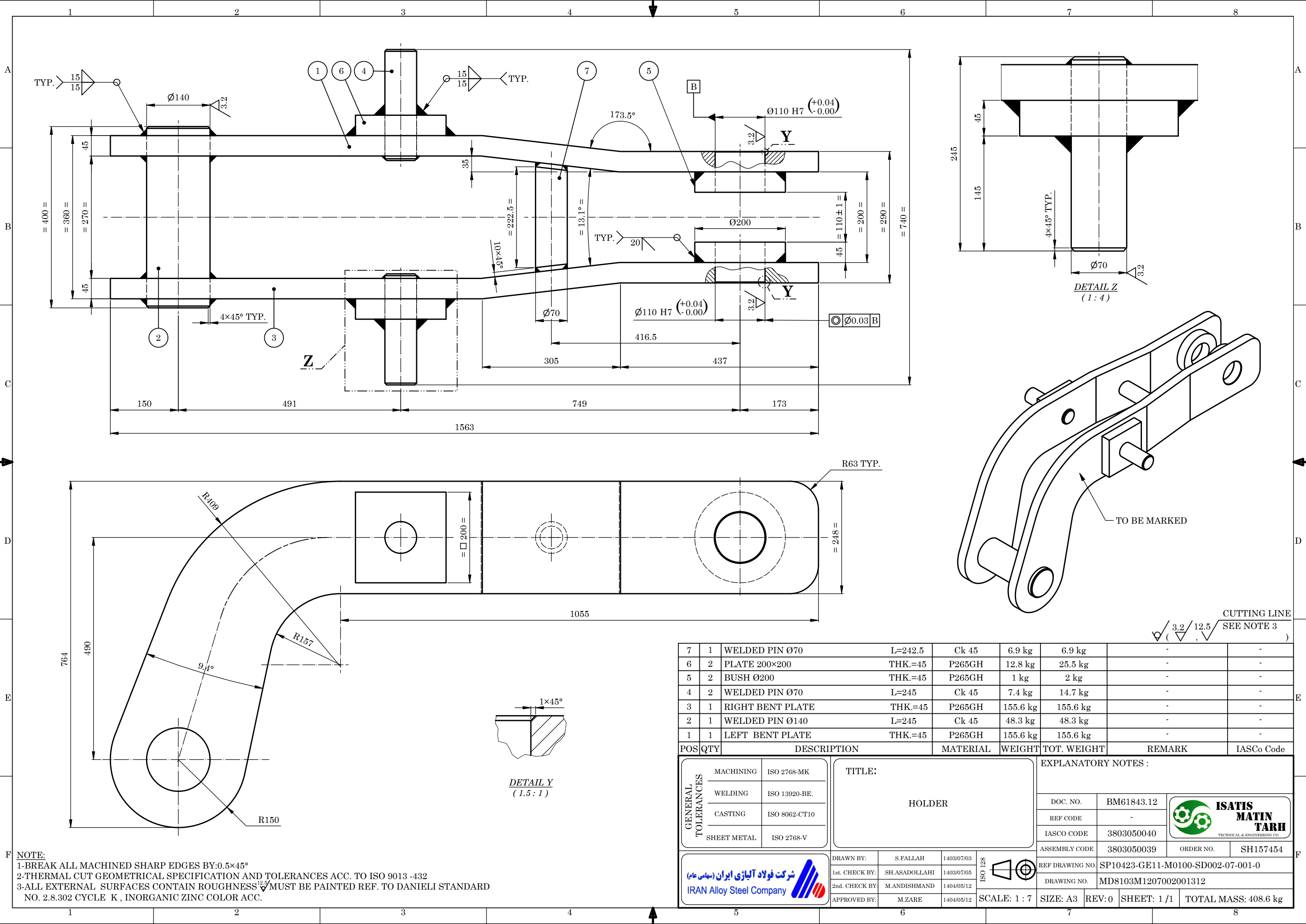
<i>Document NO.</i>	<i>BM61843.12</i>
<i>TITLE :</i>	<i>HOLDER</i>
<i>IASCO CODE :</i>	<i>3803050040</i>
<i>REF CODE:</i>	<i>-</i>

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

فهرست مندرجات :

۱	اطلاعات فنی ساخت
	- عکس قطعه یا تجهیز - نقشه ساخت - دستورالعمل جوشکاری (WPS)
۲	اطلاعات مواد اولیه
۳	بازرسی فنی و ابزار آلات اندازه گیری
۴	بسته بندی و انبارداری
۵	نمای سه بعدی (3D PDF)



NOTE:

- 1-BREAK ALL MACHINED SHARP EDGES BY:0.5×45°
- 2-THERMAL CUT GEOMETRICAL SPECIFICATION AND TOLERANCES ACC. TO ISO 9013 -432
- 3-ALL EXTERNAL SURFACES CONTAIN ROUGHNESS^{2.3} MUST BE PAINTED REF. TO DANIELI STANDARD NO. 2.8.302 CYCLE K , INORGANIC ZINC COLOR ACC.

7	1	WELDED PIN Ø70	L=242.5	Ck 45	6.9 kg	6.9 kg	-	-
6	2	PLATE 200×200	THK.=45	P265GH	12.8 kg	25.5 kg	-	-
5	2	BUSH Ø200	THK.=45	P265GH	1 kg	2 kg	-	-
4	2	WELDED PIN Ø70	L=245	Ck 45	7.4 kg	14.7 kg	-	-
3	1	RIGHT BENT PLATE	THK.=45	P265GH	155.6 kg	155.6 kg	-	-
2	1	WELDED PIN Ø140	L=245	Ck 45	48.3 kg	48.3 kg	-	-
1	1	LEFT BENT PLATE	THK.=45	P265GH	155.6 kg	155.6 kg	-	-
POS	QTY	DESCRIPTION		MATERIAL	WEIGHT	TOT. WEIGHT	REMARK	IASCo Code
GENERAL TOLERANCES		MACHINING	ISO 2768-MK		EXPLANATORY NOTES :			
		WELDING	ISO 13920-BE.					
		CASTING	ISO 8062-CT10					
		SHEET METAL	ISO 2768-V					
TITLE:				HOLDER				
HOLDER								
HOLDER								
HOLDER								
DOC. NO.				BM61843.12				
REF CODE				-				
IASCO CODE				3803050040				
ASSEMBLY CODE				3803050039				
REF DRAWING NO.				SP10423-GE11-M0100-SD002-07-001-0				
DRAWING NO.				MD8103M1207002001312				
DRAWN BY:				S.FALLAH	1403/07/03			
1st. CHECK BY:				SH.ASADOLLAHI	1403/07/05			
2nd. CHECK BY:				M.ANDISHMAND	1404/05/12			
APPROVED BY:				M.ZARE	1404/05/12			
SCALE: 1 : 7				SIZE: A3	REV:0	SHEET: 1 / 1	TOTAL MASS: 408.6 kg	



شرکت فولاد آلیاژی ایران (سهامی عام)
IRAN Alloy Steel Company

CUTTING LINE
SEE NOTE 3



▪ OBJECT

This specification defines the Design and Non Destructive Test (NDT) criteria for Structure, Equipments and Machinery weldments, designed by Sarralle Engineering department, others not covered in "EN 13445 Unfired pressure vessels".

This specification also states the acceptance criteria for each type of welding.

▪ STANDARD REFERENCES

The following standards have been taken like a guideline for the configuration of this Design criteria.

STANDARD	TITLE
AWS D14.4	Specification for Welded Joints in Machinery and Equipment Thermal Spraying
AWS A3.0	Standard Welding Terms and Definitions Including Terms for Adhesive Bonding, Brazing, Soldering, Thermal Cutting and Thermal Spraying
EN ISO 5817	Welding - Fusion-welded joints in steel, nickel, titanium and their alloys (beam welding excluded) - Quality levels for imperfections

▪ DEFINITION OF WELDING CLASS

PRIMARY WELD 1 (PW1): This covers complete and partial penetration weld joints. These weld joints apply where failure would cause a loss of the system and/or be hazardous to personnel. PW1 weld joints are highly stressed (dynamic and cyclic loading) and characterized as a single point of failure with no redundancy for the redistribution of stress into another member.

PRIMARY WELD 2 (PW2): This covers both complete and partial penetration groove weld joints and fillet weld joints. These weld joints apply where failure would reduce the overall efficiency of a system but loss of the system or a hazard to personnel would not be experienced.

SECONDARY WELD 1 (SW1): This covers both complete and partial penetration groove weld joints and fillet weld joints. These weld joints apply where failure would not affect the efficiency of a system nor create a hazard to personnel. SW1 weld joints are connections of secondary members not subject to dynamic action and/or low stressed miscellaneous applications.

SECONDARY WELD 2 (SW2): This covers weld joints applicable to welding reinforcing steel to primary structural members.

■ NDT APPLICATION PER WELDING CLASS

The NDT application criterias stated in this section are the minimum ones. The Design Engineer could define stricter levels depending of the Equipment or even specific joints.

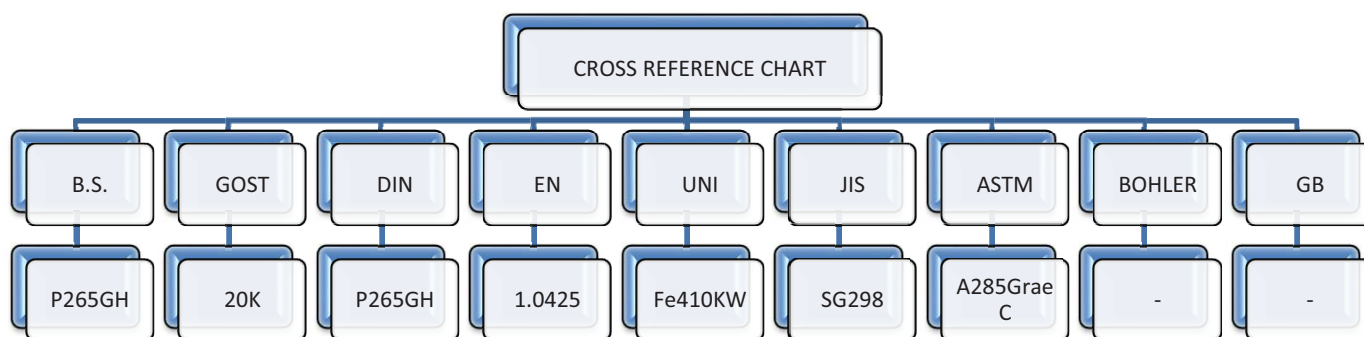
Primary Weld	PW	MT	UT (*)	VT	REMARKS
Class I	PW1	100%	100%	100%	Referred at control plan and drawing
Class II	PW2	100%	10%	100%	Referred at control plan and drawing
(*) Only at CJP joints.					
Secondary Weld	SW	MT	UT	VT	All joints which are not indicated as PW, will be considered SW
Class III	SW1	50%	—	100%	
Class IV	SW2		—	100%	
MT can be substituted by PT.					
UT can be substituted by RT.					

■ ACCEPTANCE CRITERIA PER WELDING CLASS

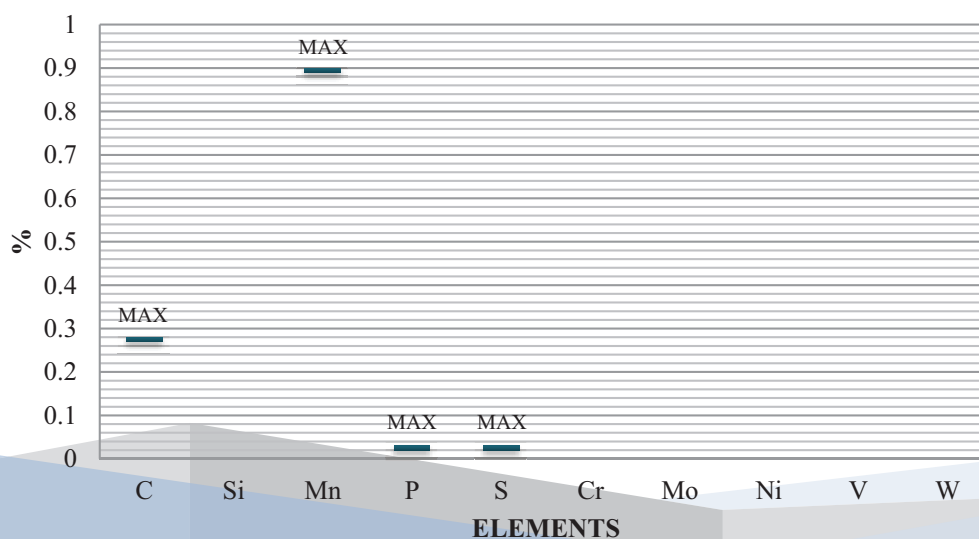
The acceptance criteria stated in this section are the minimum ones. The Design Engineer could define stricter levels depending of the Equipment or even specific joints.

Primary Weld	PW	Acceptance Criteria according EN ISO 5817
Class I	PW1	Level B
Class II	PW2	Level C
Secondary Weld	SW	
Class III	SW1	Level D
Class IV	SW2	

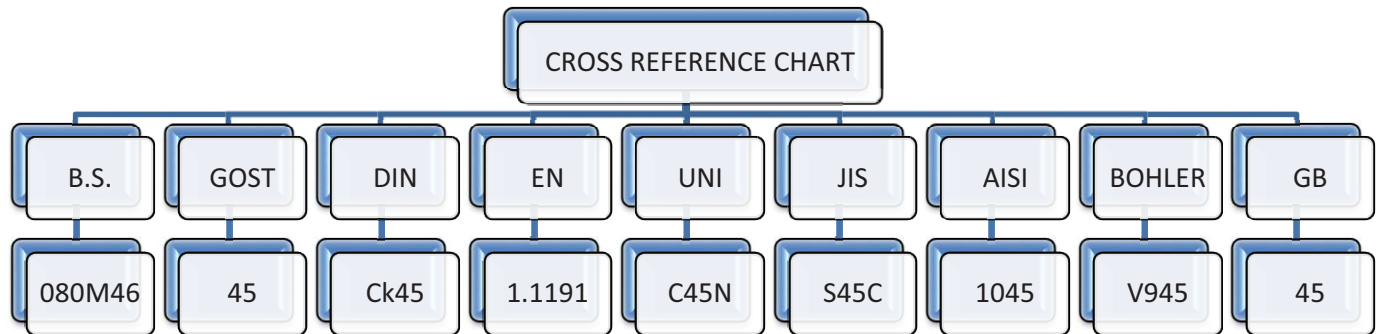
CHEMICAL COMPOSITION & EQUIVALENT MATERIALS



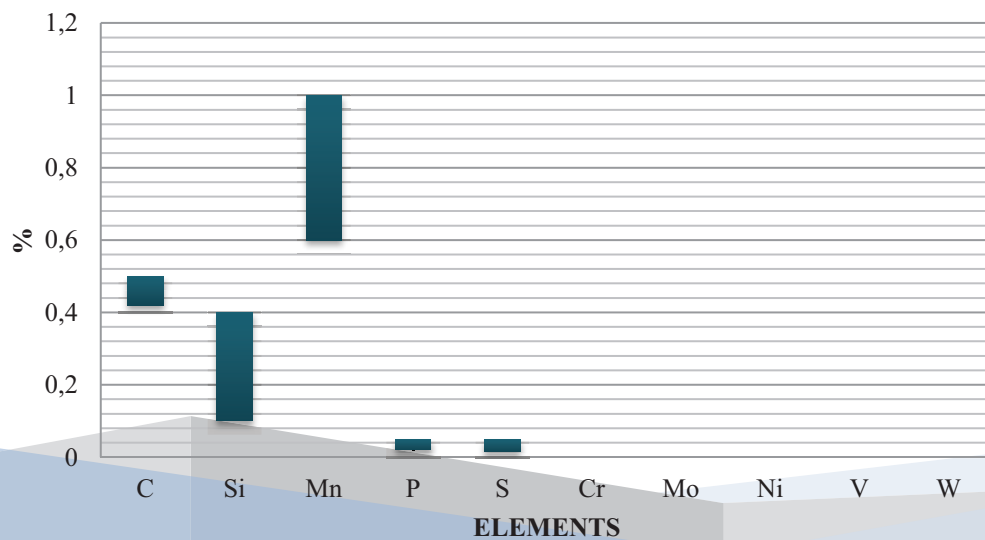
Group: Steels for pressure purposes

[illegible]

CHEMICAL COMPOSITION & EQUIVALENT MATERIALS



Group: Quenched and tempered steels



ELEMENT (%)	C	Si	Mn	P	S	Cr	Mo	Ni	V	W
Max	0.5	0.4	1	0.05	0.05					
Min	0.42	0.1	0.6	0.025	0.015					

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

بازرسی فنی :

TEST CODE	DESCRIPTION OF TEST	STD TEST	INSPECTION TYPE	REQUIRED TEST
-	Analyze of Material	Report of a valid laboratory/co.	R	✓
58	Visual and dimensional check	Draw& specif.	R	✓
-	Fit up	DANIELI 2.8.114 DANIELI 2.8.115	H	
40	Non-destructive examinations "NDT" (collecting) on welding's	DANIELI 2.8.114 DANIELI 2.8.115	R See Table 1	✓
30,41,42,43,44	Non-destructive examinations "NDT" (collecting) on castings	DANIELI 2.8.004 DANIELI 2.8.005 DANIELI 2.8.017	R See Table 1	
03,04,17,31	Non-destructive examinations "NDT" (collecting) on forgings and rolled bars	DANIELI 2.8.001 DANIELI 2.8.009	R See Table 1	
-	Tensile test	ISO 6892	R	✓
12	Metallographic structure	DANIELI 2.8.004 DANIELI 2.8.017	R	
05,06,13,14,16	Heat treatment cycle	DANIELI 2.8.300	R See Table 2	
11	Hardness measurement	DANIELI 2.8.101	R	
23	Surface hardening depth measurement	ISO 3754	R	
-	Coating	Report of a valid laboratory/co.	R See Table 3	
-	Thick. measurement of coatings	DANIELI 2.8.304 DANIELI 2.8.305	R	
57	Balancing	DANIELI 2.4.102 DANIELI 2.8.105	R	
25	Pressure leak test & proof test	DANIELI 2.8.102	R	
55	Surface Protection Inspection, Painting	DANIELI 2.8.302	R	✓
-	Packing for shipment	DANIELI 2.8.002	H	✓

TABLE 1

		% Non-destructive examinations					
		VT	DT	PT	MT	UT	RT
EDGES		✓	✓				
WELDS (For Structures)	Butt welds	✓	✓		✓		
	Fillet welds and/or partial penetration welds	✓	✓		✓		
	Fillet welds with full penetration	✓	✓		✓		
WELDS (For Piping Systems)	Butt welds	✓	✓				
	Fillet (socket) welds	✓	✓				
CASTING		CLASS		A	B	C	D
FORGING							

TABLE 2

hardening & tempering	Annealing	Normalizing	Quenching	Tempering	Induction hardening	Nitrating	Carburizing	Stress relieving

TABLE 3

COATING	Hard chromium plating	Chrome oxide coating	Coating powders	Zinc galvanizing	Phosphating
REQUIRED TEST					

W (Witness) : حضور و مشاهده بازرس کارفرما حین انجام فرآیند ضروری است یا بازرسی باید به طور کامل توسط بازرس کارفرما صورت گیرد .

R (Review) : بازبینی مدارک QC سازنده و کنترل رندم کفایت دارد.

H (Hold) : ادامه تولید باید با اجازه بازرس کارفرما باشد لذا جهت جلوگیری از وقفه در تولید ،قبلا" تدابیر و هماهنگی لازم صورت گیرد.

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

REQUIREMENT INSTRUMENTS					
✓	Caliper			Pitch gauge	
	Micrometer			Depth gauge	
✓	Bore gauge			R gauge	
	Gauge blocks			Compass	
	Protractor		✓	Digital indicator	
✓	Meter			Gear tooth Vernier caliper	
Special instruments					

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

بسته بندی و انبار داری :

بدون بسته بندی	حمل به صورت بانديل	پايه يا پالت چوبي	کارتن	جعبه چوبي	صندوق چوبي
					
		✓			

شرایط محافظت از سطوح قطعه :

سطوح ماشین کاری تلرانسی آغشته به روغن یا گریس شوند .
سطوح ماشین کاری تلرانسی با پلاستیک ضربه گیر محافظت شوند .

نکات انبارداری :

دور از تابش مستقیم نور باشد .
نگهداری در انبار رو باز بلا مانع می باشد .
قطعه شکستنی می باشد .
دور از رطوبت نگهداری شود .
جهت جابجایی فقط از مکان های مجاز قابل حمل می باشد.
ورودی و خروجی لوله ها با درپوش بسته باشد.

توضیحات :

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER:

IRAN ALLOY STEEL CO.

CONTRACTOR:

ISATIS MATIN TARH CO.



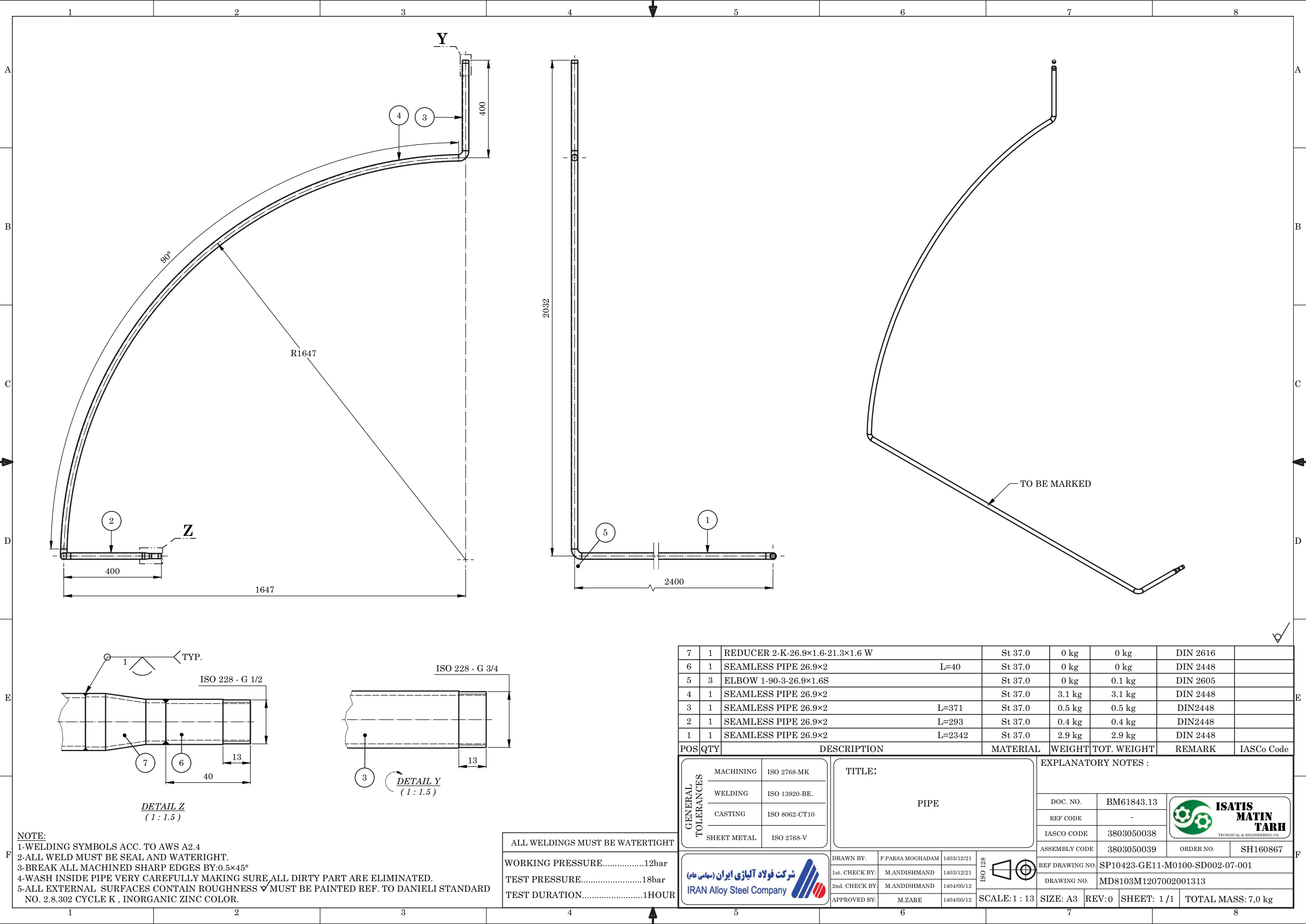
<i>Document NO.</i>	<i>BM61843.13</i>
<i>TITLE :</i>	<i>PIPE</i>
<i>IASCO CODE :</i>	<i>3803050038</i>
<i>REF CODE:</i>	<i>-</i>

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

فهرست مندرجات :

۱	اطلاعات فنی ساخت
	- عکس قطعه یا تجهیز - نقشه ساخت - دستورالعمل جوشکاری (WPS)
۲	اطلاعات مواد اولیه
۳	بازرسی فنی و ابزار آلات اندازه گیری
۴	بسته بندی و انبارداری
۵	نمای سه بعدی (3D PDF)



NOTE:
1-WELDING SYMBOLS ACC. TO AWS A2.4
2-ALL WELD MUST BE SEAL AND WATERIGHT.
3-BREAK ALL MACHINED SHARP EDGES BY:0.5×45°
4-WASH INSIDE PIPE VERY CAREFULLY MAKING SURE,ALL DIRTY PART ARE ELIMINATED.
5-ALL EXTERNAL SURFACES CONTAIN ROUGHNESS ✓ MUST BE PAINTED REF. TO DANIELI STANDARD NO. 2.8.302 CYCLE K , INORGANIC ZINC COLOR.

ALL WELDINGS MUST BE WATERTIGHT	
WORKING PRESSURE.....	12bar
TEST PRESSURE.....	18bar
TEST DURATION.....	1HOUR

7	1	REDUCER 2-K-26.9×1.6-21.3×1.6 W		St 37.0	0 kg	0 kg	DIN 2616	
6	1	SEAMLESS PIPE 26.9×2	L=40	St 37.0	0 kg	0 kg	DIN 2448	
5	3	ELBOW 1-90-3-26.9×1.6S		St 37.0	0 kg	0.1 kg	DIN 2605	
4	1	SEAMLESS PIPE 26.9×2		St 37.0	3.1 kg	3.1 kg	DIN 2448	
3	1	SEAMLESS PIPE 26.9×2	L=371	St 37.0	0.5 kg	0.5 kg	DIN2448	
2	1	SEAMLESS PIPE 26.9×2	L=293	St 37.0	0.4 kg	0.4 kg	DIN2448	
1	1	SEAMLESS PIPE 26.9×2	L=2342	St 37.0	2.9 kg	2.9 kg	DIN 2448	
POS	QTY	DESCRIPTION		MATERIAL	WEIGHT	TOT. WEIGHT	REMARK	IASCo Code
GENERAL TOLERANCES	MACHINING	ISO 2768-MK		EXPLANATORY NOTES :				
	WELDING	ISO 13920-BE.						
	CASTING	ISO 8062-CT10						
	SHEET METAL	ISO 2768-V						
TITLE: PIPE								
DOC. NO.		BM61843.13						
REF CODE		-						
IASCO CODE		3803050038		TECHNICAL & ENGINEERING CO.				
ASSEMBLY CODE		3803050039						
REF DRAWING NO.		SP10423-GE11-M0100-SD002-07-001						
DRAWING NO.		MD8103M1207002001313						
DRAWN BY:		F.PARSA MOGHADAM	1403/12/21					
1st. CHECK BY:		M.ANDISHMAND	1403/12/21					
2nd. CHECK BY:		M.ANDISHMAND	1404/05/12					
APPROVED BY:		M.ZARE	1404/05/12		SCALE: 1 : 13			
SIZE: A3		REV: 0		SHEET: 1 / 1		TOTAL MASS: 7,0 kg		

شرکت فولاد آلیاژی ایران (سهامی عام)

IRAN Alloy Steel Company



DRAWN BY:

F.PARSA MOGHADAM

1403/12/21

1st. CHECK BY:

M.ANDISHMAND

1403/12/21

2nd. CHECK BY:

M.ANDISHMAND

1404/05/12

APPROVED BY:

M.ZARE

1404/05/12

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

بازرسی فنی :

TEST CODE	DESCRIPTION OF TEST	STD TEST	INSPECTION TYPE	REQUIRED TEST
-	Analyze of Material	Report of a valid laboratory/co.	R	
58	Visual and dimensional check	Draw& specif.	R	✓
-	Fit up	DANIELI 2.8.114 DANIELI 2.8.115	H	
40	Non-destructive examinations "NDT" (collecting) on welding's	DANIELI 2.8.114 DANIELI 2.8.115	R See Table 1	✓
30,41,42,43,44	Non-destructive examinations "NDT" (collecting) on castings	DANIELI 2.8.004 DANIELI 2.8.005 DANIELI 2.8.017	R See Table 1	
03,04,17,31	Non-destructive examinations "NDT" (collecting) on forgings and rolled bars	DANIELI 2.8.001 DANIELI 2.8.009	R See Table 1	
-	Tensile test	ISO 6892	R	
12	Metallographic structure	DANIELI 2.8.004 DANIELI 2.8.017	R	
05,06,13,14,16	Heat treatment cycle	DANIELI 2.8.300	R See Table 2	
11	Hardness measurement	DANIELI 2.8.101	R	
23	Surface hardening depth measurement	ISO 3754	R	
-	Coating	Report of a valid laboratory/co.	R See Table 3	
-	Thick. measurement of coatings	DANIELI 2.8.304 DANIELI 2.8.305	R	
57	Balancing	DANIELI 2.4.102 DANIELI 2.8.105	R	
25	Pressure leak test & proof test	DANIELI 2.8.102	R	✓
55	Surface Protection Inspection, Painting	DANIELI 2.8.302	R	✓
-	Packing for shipment	DANIELI 2.8.002	H	✓

TABLE 1

		% Non-destructive examinations					
		VT	DT	PT	MT	UT	RT
EDGES		-	-				
WELDS (For Structures)	Butt welds	-	-				
	Fillet welds and/or partial penetration welds	-	-				
	Fillet welds with full penetration	-	-				
WELDS (For Piping Systems)	Butt welds	✓	✓				
	Fillet (socket) welds	✓	✓				
CASTING		CLASS		A	B	C	D
FORGING							

TABLE 2

hardening & tempering	Annealing	Normalizing	Quenching	Tempering	Induction hardening	Nitrating	Carburizing	Stress relieving

TABLE 3

COATING	Hard chromium plating	Chrome oxide coating	Coating powders	Zinc galvanizing	Phosphating
REQUIRED TEST					

W (Witness) : حضور و مشاهده بازرس کارفرما حین انجام فرآیند ضروری است یا بازرسی باید به طور کامل توسط بازرس کارفرما صورت گیرد .

R (Review) : بازبینی مدارک QC سازنده و کنترل رندم کفایت دارد.

H (Hold) : ادامه تولید باید با اجازه بازرس کارفرما باشد لذا جهت جلوگیری از وقفه در تولید ،قبلا" تدابیر و هماهنگی لازم صورت گیرد.

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

REQUIREMENT INSTRUMENTS					
✓	Caliper		✓	Pitch gauge	
	Micrometer			Depth gauge	
	Bore gauge		✓	R gauge	
	Gauge blocks			Compass	
	Protractor			Digital indicator	
✓	Meter			Gear tooth Vernier caliper	
Special instruments					

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

بسته بندی و انبار داری :

بدون بسته بندی	حمل به صورت بانديل	پايه يا پالت چوبي	کارتن	جعبه چوبي	صندوق چوبي
					
✓					

شرایط محافظت از سطوح قطعه :

سطوح ماشین کاری تلرانسی آغشته به روغن یا گریس شوند .
سطوح ماشین کاری تلرانسی با پلاستیک ضربه گیر محافظت شوند .

نکات انبارداری :

دور از تابش مستقیم نور باشد .
نگهداری در انبار رو باز بلا مانع می باشد .
قطعه شکستنی می باشد .
دور از رطوبت نگهداری شود .
جهت جابجایی فقط از مکان های مجاز قابل حمل می باشد.
ورودی و خروجی لوله ها با درپوش بسته باشد.

توضیحات :

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER:

IRAN ALLOY STEEL CO.

CONTRACTOR:

ISATIS MATIN TARH CO.



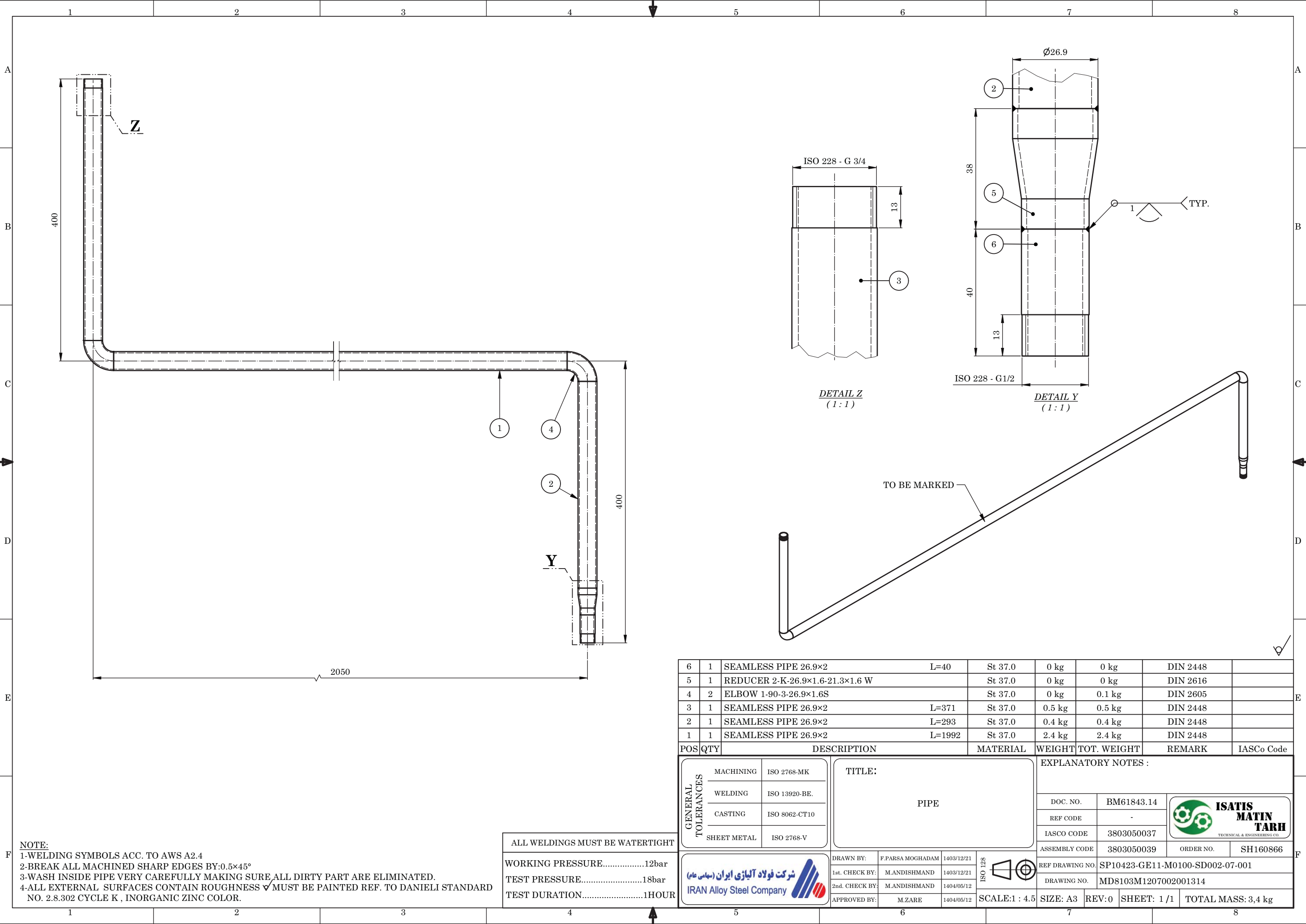
<i>Document NO.</i>	<i>BM61843.14</i>
<i>TITLE :</i>	<i>PIPE</i>
<i>IASCO CODE :</i>	<i>3803050037</i>
<i>REF CODE:</i>	<i>-</i>

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

فهرست مندرجات :

۱	اطلاعات فنی ساخت
	- عکس قطعه یا تجهیز - نقشه ساخت - دستورالعمل جوشکاری (WPS)
۲	اطلاعات مواد اولیه
۳	بازرسی فنی و ابزار آلات اندازه گیری
۴	بسته بندی و انبارداری
۵	نمای سه بعدی (3D PDF)



NOTE:
1-WELDING SYMBOLS ACC. TO AWS A2.4
2-BREAK ALL MACHINED SHARP EDGES BY:0.5×45°
3-WASH INSIDE PIPE VERY CAREFULLY MAKING SURE ALL DIRTY PART ARE ELIMINATED.
4-ALL EXTERNAL SURFACES CONTAIN ROUGHNESS ✓ MUST BE PAINTED REF. TO DANIELI STANDARD NO. 2.8.302 CYCLE K , INORGANIC ZINC COLOR.

ALL WELDINGS MUST BE WATERTIGHT	
WORKING PRESSURE.....	12bar
TEST PRESSURE.....	18bar
TEST DURATION.....	1HOUR

6	1	SEAMLESS PIPE 26.9×2		L=40	St 37.0	0 kg	0 kg	DIN 2448		
5	1	REDUCER 2-K-26.9×1.6-21.3×1.6 W			St 37.0	0 kg	0 kg	DIN 2616		
4	2	ELBOW 1-90-3-26.9×1.6S			St 37.0	0 kg	0.1 kg	DIN 2605		
3	1	SEAMLESS PIPE 26.9×2		L=371	St 37.0	0.5 kg	0.5 kg	DIN 2448		
2	1	SEAMLESS PIPE 26.9×2		L=293	St 37.0	0.4 kg	0.4 kg	DIN 2448		
1	1	SEAMLESS PIPE 26.9×2		L=1992	St 37.0	2.4 kg	2.4 kg	DIN 2448		
POS	QTY	DESCRIPTION			MATERIAL	WEIGHT	TOT. WEIGHT	REMARK	IASCo Code	
GENERAL TOLERANCES	MACHINING	ISO 2768-MK		TITLE: PIPE						
	WELDING	ISO 13920-BE.								
	CASTING	ISO 8062-CT10								
	SHEET METAL	ISO 2768-V								
EXPLANATORY NOTES :						DOC. NO.	BM61843.14		 ISATIS MATIN TARH TECHNICAL & ENGINEERING CO.	
						REF CODE	-			
IASCO CODE	3803050037									
ASSEMBLY CODE		3803050039		ORDER NO.		SH160866				
REF DRAWING NO.		SP10423-GE11-M0100-SD002-07-001								
DRAWING NO.		MD8103M1207002001314								
APPROVED BY:		M.ZARE		1404/05/12		SCALE:1 : 4.5	SIZE: A3	REV:0	SHEET: 1 /1	TOTAL MASS: 3,4 kg
 شرکت فولاد آلیاژی ایران (سهامی عام) IRAN Alloy Steel Company										

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

بازرسی فنی :

TEST CODE	DESCRIPTION OF TEST	STD TEST	INSPECTION TYPE	REQUIRED TEST
-	Analyze of Material	Report of a valid laboratory/co.	R	
58	Visual and dimensional check	Draw& specif.	R	✓
-	Fit up	DANIELI 2.8.114 DANIELI 2.8.115	H	
40	Non-destructive examinations "NDT" (collecting) on welding's	DANIELI 2.8.114 DANIELI 2.8.115	R See Table 1	✓
30,41,42,43,44	Non-destructive examinations "NDT" (collecting) on castings	DANIELI 2.8.004 DANIELI 2.8.005 DANIELI 2.8.017	R See Table 1	
03,04,17,31	Non-destructive examinations "NDT" (collecting) on forgings and rolled bars	DANIELI 2.8.001 DANIELI 2.8.009	R See Table 1	
-	Tensile test	ISO 6892	R	
12	Metallographic structure	DANIELI 2.8.004 DANIELI 2.8.017	R	
05,06,13,14,16	Heat treatment cycle	DANIELI 2.8.300	R See Table 2	
11	Hardness measurement	DANIELI 2.8.101	R	
23	Surface hardening depth measurement	ISO 3754	R	
-	Coating	Report of a valid laboratory/co.	R See Table 3	
-	Thick. measurement of coatings	DANIELI 2.8.304 DANIELI 2.8.305	R	
57	Balancing	DANIELI 2.4.102 DANIELI 2.8.105	R	
25	Pressure leak test & proof test	DANIELI 2.8.102	R	✓
55	Surface Protection Inspection, Painting	DANIELI 2.8.302	R	✓
-	Packing for shipment	DANIELI 2.8.002	H	✓

TABLE 1

		% Non-destructive examinations					
		VT	DT	PT	MT	UT	RT
EDGES		-	-				
WELDS (For Structures)	Butt welds	-	-				
	Fillet welds and/or partial penetration welds	-	-				
	Fillet welds with full penetration	-	-				
WELDS (For Piping Systems)	Butt welds	✓	✓				
	Fillet (socket) welds	✓	✓				
CASTING		CLASS		A	B	C	D
FORGING							

TABLE 2

hardening & tempering	Annealing	Normalizing	Quenching	Tempering	Induction hardening	Nitrating	Carburizing	Stress relieving

TABLE 3

COATING	Hard chromium plating	Chrome oxide coating	Coating powders	Zinc galvanizing	Phosphating
REQUIRED TEST					

W (Witness) : حضور و مشاهده بازرس کارفرما حین انجام فرآیند ضروری است یا بازرسی باید به طور کامل توسط بازرس کارفرما صورت گیرد .

R (Review) : بازبینی مدارک QC سازنده و کنترل رندم کفایت دارد.

H (Hold) : ادامه تولید باید با اجازه بازرس کارفرما باشد لذا جهت جلوگیری از وقفه در تولید ،قبلا" تدابیر و هماهنگی لازم صورت گیرد.

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

REQUIREMENT INSTRUMENTS					
✓	Caliper		✓	Pitch gauge	
	Micrometer			Depth gauge	
	Bore gauge		✓	R gauge	
	Gauge blocks			Compass	
✓	Protractor			Digital indicator	
✓	Meter			Gear tooth Vernier caliper	
Special instruments					

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

بسته بندی و انبار داری :

بدون بسته بندی	حمل به صورت بانديل	پايه يا پالت چوبي	کارتن	جعبه چوبي	صندوق چوبي
					
✓					

شرایط محافظت از سطوح قطعه :

سطوح ماشین کاری تلرانسی آغشته به روغن یا گریس شوند .
سطوح ماشین کاری تلرانسی با پلاستیک ضربه گیر محافظت شوند .

نکات انبارداری :

دور از تابش مستقیم نور باشد .
نگهداری در انبار رو باز بلا مانع می باشد .
قطعه شکستنی می باشد .
دور از رطوبت نگهداری شود .
جهت جابجایی فقط از مکان های مجاز قابل حمل می باشد.
ورودی و خروجی لوله ها با درپوش بسته باشد.

توضیحات :

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER:

IRAN ALLOY STEEL CO.

CONTRACTOR:

ISATIS MATIN TARH CO.



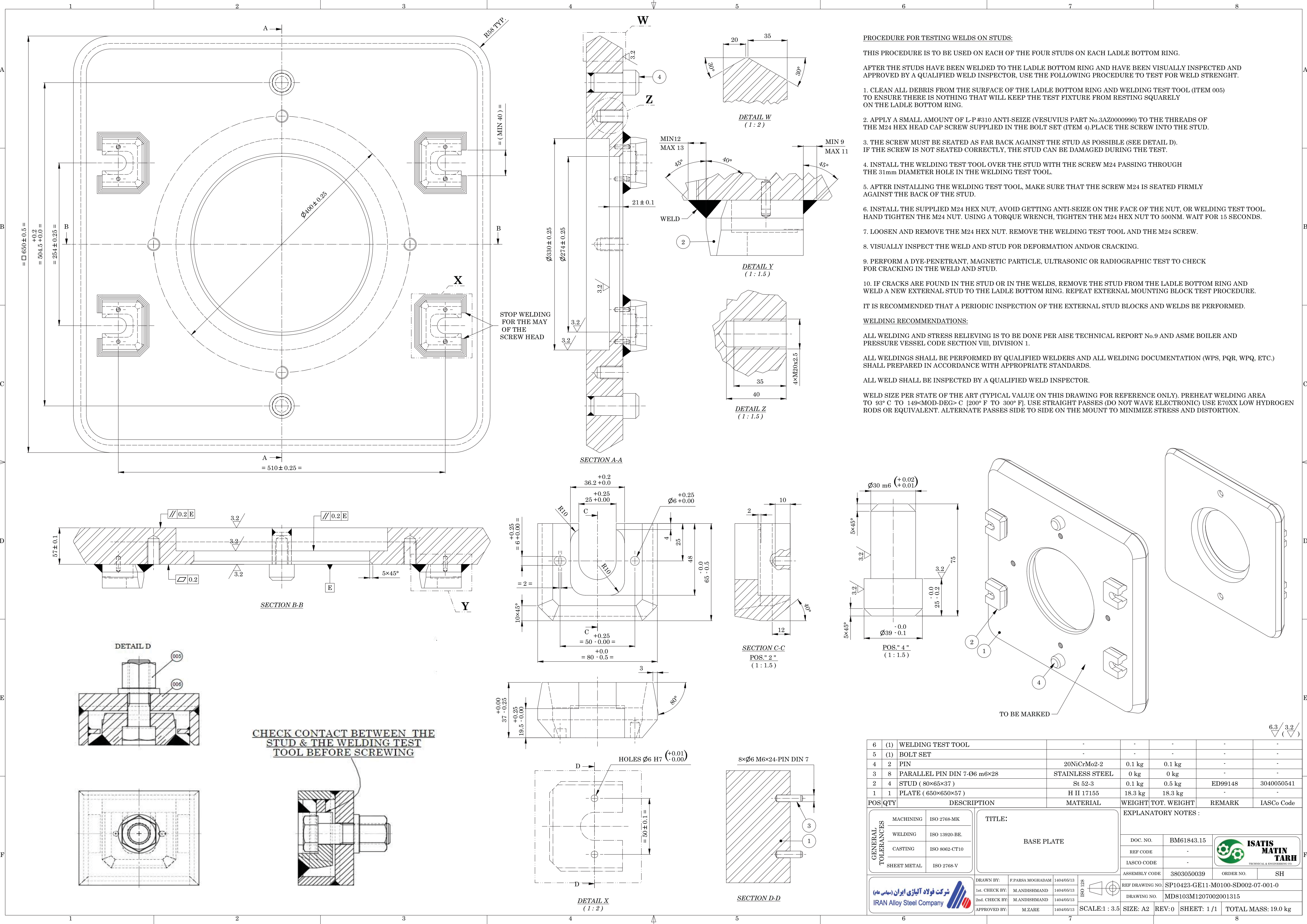
<i>Document NO.</i>	<i>BM61843.15</i>
<i>TITLE :</i>	<i>BASE PLATE</i>
<i>IASCO CODE :</i>	-
<i>REF CODE:</i>	-

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

فهرست مندرجات :

۱	اطلاعات فنی ساخت
	- عکس قطعه یا تجهیز - نقشه ساخت - دستورالعمل جوشکاری (WPS)
۲	اطلاعات مواد اولیه
۳	بازرسی فنی و ابزار آلات اندازه گیری
۴	بسته بندی و انبارداری
۵	نمای سه بعدی (3D PDF)



PROCEDURE FOR TESTING WELDS ON STUDS:

THIS PROCEDURE IS TO BE USED ON EACH OF THE FOUR STUDS ON EACH LADLE BOTTOM RING.

AFTER THE STUDS HAVE BEEN WELDED TO THE LADLE BOTTOM RING AND HAVE BEEN VISUALLY INSPECTED AND APPROVED BY A QUALIFIED WELD INSPECTOR, USE THE FOLLOWING PROCEDURE TO TEST FOR WELD STRENGTH.

- CLEAN ALL DEBRIS FROM THE SURFACE OF THE LADLE BOTTOM RING AND WELDING TEST TOOL (ITEM 005) TO ENSURE THERE IS NOTHING THAT WILL KEEP THE TEST FIXTURE FROM RESTING SQUARELY ON THE LADLE BOTTOM RING.
- APPLY A SMALL AMOUNT OF L-P #310 ANTI-SEIZE (VESUVIUS PART No.3AZ0000990) TO THE THREADS OF THE M24 HEX HEAD CAP SCREW SUPPLIED IN THE BOLT SET (ITEM 4).PLACE THE SCREW INTO THE STUD.
- THE SCREW MUST BE SEATED AS FAR BACK AGAINST THE STUD AS POSSIBLE (SEE DETAIL D). IF THE SCREW IS NOT SEATED CORRECTLY, THE STUD CAN BE DAMAGED DURING THE TEST.
- INSTALL THE WELDING TEST TOOL OVER THE STUD WITH THE SCREW M24 PASSING THROUGH THE 31mm DIAMETER HOLE IN THE WELDING TEST TOOL.
- AFTER INSTALLING THE WELDING TEST TOOL, MAKE SURE THAT THE SCREW M24 IS SEATED FIRMLY AGAINST THE BACK OF THE STUD.
- INSTALL THE SUPPLIED M24 HEX NUT, AVOID GETTING ANTI-SEIZE ON THE FACE OF THE NUT, OR WELDING TEST TOOL. HAND TIGHTEN THE M24 NUT. USING A TORQUE WRENCH, TIGHTEN THE M24 HEX NUT TO 500NM. WAIT FOR 15 SECONDS.
- LOOSEN AND REMOVE THE M24 HEX NUT. REMOVE THE WELDING TEST TOOL AND THE M24 SCREW.
- VISUALLY INSPECT THE WELD AND STUD FOR DEFORMATION AND/OR CRACKING.
- PERFORM A DYE-PENETRANT, MAGNETIC PARTICLE, ULTRASONIC OR RADIOGRAPHIC TEST TO CHECK FOR CRACKING IN THE WELD AND STUD.
- IF CRACKS ARE FOUND IN THE STUD OR IN THE WELDS, REMOVE THE STUD FROM THE LADLE BOTTOM RING AND WELD A NEW EXTERNAL STUD TO THE LADLE BOTTOM RING. REPEAT EXTERNAL MOUNTING BLOCK TEST PROCEDURE.

IT IS RECOMMENDED THAT A PERIODIC INSPECTION OF THE EXTERNAL STUD BLOCKS AND WELDS BE PERFORMED.

WELDING RECOMMENDATIONS:

ALL WELDING AND STRESS RELIEVING IS TO BE DONE PER AISE TECHNICAL REPORT No.9 AND ASME BOILER AND PRESSURE VESSEL CODE SECTION VIII, DIVISION 1.

ALL WELDINGS SHALL BE PERFORMED BY QUALIFIED WELDERS AND ALL WELDING DOCUMENTATION (WPS, PQR, WPQ, ETC.) SHALL PREPARED IN ACCORDANCE WITH APPROPRIATE STANDARDS.

ALL WELD SHALL BE INSPECTED BY A QUALIFIED WELD INSPECTOR.

WELD SIZE PER STATE OF THE ART (TYPICAL VALUE ON THIS DRAWING FOR REFERENCE ONLY). PREHEAT WELDING AREA TO 93° C TO 149<MOD-DEG> C [200° F TO 300° F]. USE STRAIGHT PASSES (DO NOT WAVE ELECTRONIC) USE E70XX LOW HYDROGEN RODS OR EQUIVALENT. ALTERNATE PASSES SIDE TO SIDE ON THE MOUNT TO MINIMIZE STRESS AND DISTORTION.

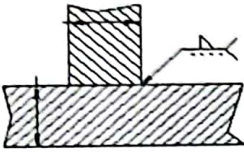
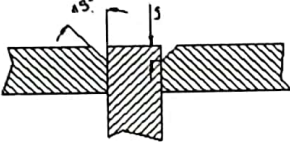
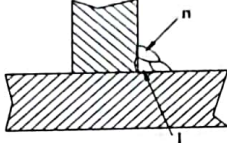
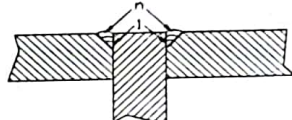
6	(1)	WELDING TEST TOOL	-	-	-	-	-
5	(1)	BOLT SET	-	-	-	-	-
4	2	PIN	20NiCrMo2-2	0.1 kg	0.1 kg	-	-
3	8	PARALLEL PIN DIN 7-06 m6x28	STAINLESS STEEL	0 kg	0 kg	-	-
2	4	STUD (80x65x37)	St 52-3	0.1 kg	0.5 kg	ED99148	3040050541
1	1	PLATE (650x650x57)	H II 17155	18.3 kg	18.3 kg	-	-
POS	QTY	DESCRIPTION	MATERIAL	WEIGHT	TOT. WEIGHT	REMARK	IASC Co Code
GENERAL TOLERANCES			EXPLANATORY NOTES :				
MACHINING			TITLE:				
WELDING			BASE PLATE				
CASTING			DOC. NO.				
SHEET METAL			REF CODE				
			IASCO CODE				
			ASSEMBLY CODE				
			ORDER NO.				
			SH				
			REF DRAWING NO.				
			DRAWING NO.				
			TOTAL MASS: 19.0 kg				

Pre Welding Procedure Specification (PWPS)

WPQR No. :	N.A (not applicable)	Standard:	EN ISO 15609-1
WPS No. :	1402-04	Date/Rev.:	1402-05-10 / 0
Manufacturer:	Soha Sanat Oksin Co.	Page:	1/1

Welding process:	135 (GMAW)	Parent Material Designation (Group No.):	ST52 (1.2) to ST52 (1.2)
Mode of transfer:	Spray		
Joint Type:	Single & Double bevel / T & Corner	Material thickness (mm):	~ 37 to ~ 120
Weld Type:	BUTT / Fillet	Throat thickness (mm):	N.A
Welding Position:	PA / PB		
Method of Preparation and Cleaning:	Grinding & Brushing		

Weld Preparation Details (Sketch)*

Joint Design	Welding Sequences
 	 

Welding Details

Run	Welding Process	Size of Filler Material (mm)	Current (A)	Voltage (V)	Type of current/ Polarity	Wire Feed Speed (m/min)	Travel Speed (cm/min)	Heat input (kJ/mm)
Butt Weld	135	1.20	190 - 230	25 - 27	DCEP	-	7 - 8	...
Fillet Weld	135	1.20	170 - 210	24 - 26	DCEP	-	8 - 9	

Filler material designation and make:	EN ISO 14341-A G3Si1, AWS A5.18 ER70S-6, OK Autrod 12.51
Any Special Baking or Drying:	N.A
Designation Gas/Flux:	Other information , e.g.:
Shielding: ISO 14175 - M21 (Ar + 18 %CO	String or Weave: Both
Backing: N.A	Oscillation: amplitude, frequency, dwell time: -
Gas Flow Rate:	Pulse welding details: N.A
Shielding: 10 - 14 l/min	Electrode Extension (mm): 6 - 13
Backing: N.A	Plasma welding details: N.A
Tungsten Electrode Type/Size:	Torch angle: Manual
Details of Back Gouging/Backing:	Electrode Stick out (mm): N.A
Preheat Temperature:	Degree of mechanization: Partly mechanize
Interpass Temperature:	Other: -
Post heating:	
Post-Weld Heat treatment and/or Ageing:	
(Time, Temperature, Method	
Heating and Cooling Rates) :	

Prepared By :
(name, date and signature)
M.Marashi.
1402-05-10

Approved By:
(name, date and signature)



M. Marashi

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

بازرسی فنی :

TEST CODE	DESCRIPTION OF TEST	STD TEST	INSPECTION TYPE	REQUIRED TEST
-	Analyze of Material	Report of a valid laboratory/co.	R	✓
58	Visual and dimensional check	Draw& specif.	R	✓
-	Fit up	DANIELI 2.8.114 DANIELI 2.8.115	H	
40	Non-destructive examinations "NDT" (collecting) on welding's	DANIELI 2.8.114 DANIELI 2.8.115	R See Table 1	✓
30,41,42,43,44	Non-destructive examinations "NDT" (collecting) on castings	DANIELI 2.8.004 DANIELI 2.8.005 DANIELI 2.8.017	R See Table 1	
03,04,17,31	Non-destructive examinations "NDT" (collecting) on forgings and rolled bars	DANIELI 2.8.001 DANIELI 2.8.009	R See Table 1	
-	Tensile test	ISO 6892	R	✓
12	Metallographic structure	DANIELI 2.8.004 DANIELI 2.8.017	R	
05,06,13,14,16	Heat treatment cycle	DANIELI 2.8.300	R See Table 2	
11	Hardness measurement	DANIELI 2.8.101	R	
23	Surface hardening depth measurement	ISO 3754	R	
-	Coating	Report of a valid laboratory/co.	R See Table 3	
-	Thick. measurement of coatings	DANIELI 2.8.304 DANIELI 2.8.305	R	
57	Balancing	DANIELI 2.4.102 DANIELI 2.8.105	R	
25	Pressure leak test & proof test	DANIELI 2.8.102	R	
55	Surface Protection Inspection, Painting	DANIELI 2.8.302	R	
-	Packing for shipment	DANIELI 2.8.002	H	✓

TABLE 1

		% Non-destructive examinations					
		VT	DT	PT	MT	UT	RT
EDGES		✓	✓				
WELDS (For Structures)	Butt welds	✓	✓	✓	✓		
	Fillet welds and/or partial penetration welds	✓	✓	✓	✓		
	Fillet welds with full penetration	✓	✓	✓	✓		
WELDS (For Piping Systems)	Butt welds	✓	✓				
	Fillet (socket) welds	✓	✓				
CASTING		CLASS		A	B	C	D
FORGING							

TABLE 2

hardening & tempering	Annealing	Normalizing	Quenching	Tempering	Induction hardening	Nitrating	Carburizing	Stress relieving

TABLE 3

COATING	Hard chromium plating	Chrome oxide coating	Coating powders	Zinc galvanizing	Phosphating
REQUIRED TEST					

W (Witness) : حضور و مشاهده بازرس کارفرما حین انجام فرآیند ضروری است یا بازرسی باید به طور کامل توسط بازرس کارفرما صورت گیرد .

R (Review) : بازبینی مدارک QC سازنده و کنترل رندم کفایت دارد.

H (Hold) : ادامه تولید باید با اجازه بازرس کارفرما باشد لذا جهت جلوگیری از وقفه در تولید ،قبلا" تدابیر و هماهنگی لازم صورت گیرد.

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

REQUIREMENT INSTRUMENTS					
✓	Caliper		✓	Pitch gauge	
✓	Micrometer			Depth gauge	
	Bore gauge		✓	R gauge	
	Gauge blocks			Compass	
✓	Protractor		✓	Digital indicator	
✓	Meter			Gear tooth Vernier caliper	
Special instruments					

TECHNICAL SPECIFICATION DOCUMENT

EMPLOYER: IRAN ALLOY STEEL CO.
CONTRACTOR: ISATIS MATIN TARH CO.

بسته بندی و انبار داری :

بدون بسته بندی	حمل به صورت بانديل	پايه يا پالت چوبي	کارتن	جعبه چوبي	صندوق چوبي
					
		✓			

شرایط محافظت از سطوح قطعه :

سطوح ماشین کاری تلرانسی آغشته به روغن یا گریس شوند .	
سطوح ماشین کاری تلرانسی با پلاستیک ضربه گیر محافظت شوند .	✓

نکات انبارداری :

دور از تابش مستقیم نور باشد .	
نگهداری در انبار رو باز بلا مانع می باشد .	
قطعه شکستنی می باشد .	
دور از رطوبت نگهداری شود .	✓
جهت جابجایی فقط از مکان های مجاز قابل حمل می باشد.	
ورودی و خروجی لوله ها با درپوش بسته باشد.	

توضیحات :

COMPLETE LADLE ASSEMBLY 100 TON SM2

TITLE	COMPLETE LADLE ASSEMBLY
-------	-------------------------

PART NO	-
---------	---

REVISION	-
----------	---

DESIGNER	S.JAFARI
----------	----------

ENGINEER	-
----------	---

NOTES

-

THE INFORMATION AND/OR MATERIAL IN THIS DOCUMENT IS THE PROPERTY OF AND RESTRICTED INFORMATION AND/OR MATERIAL OF THE AUTHOR. THIS INFORMATION MAY NOT BE USED, REPRODUCED, PUBLISHED OR DISCLOSED TO OTHERS WITHOUT WRITTEN AUTHORIZATION. IT IS TO BE USED ONLY FOR MANUFACTURING ITEMS SPECIFIED WITHIN THE DOCUMENT.