

Annexure-C

Plates (Stainless Steel)

Sr. #	Description	Qty. (Nos.)	Wt.(Kg) (Approx.)	Material
1	Plate 12 x 1220 x 2440 (mm)	1	283	SA-240 316L as per attached specification No. KC071-TK001-MS-01/ 163 (Rev.0) (Annexure-E)
2	Plate 24 x 2000 x 6000 (mm)	2	4568	
3	Plate 36 x 2000 x 6400 (mm)	2	7308	
4	Plate 36 x 1500 x 3000 (mm)	1	1285	

Plates (Carbon Steel)

5	Plate 10 x 1220 x 2440 (mm)	1	234	SA516-Gr. 70 As per attached specification No. KC071-TK001-MS-02/ 163 (Rev.0) (Annexure-F)
6	Plate 12 x 1500 x 3000 (mm)	1	424	
7	Plate 15 x 2000 x 6000 (mm)	2	2830	
8	Plate 15 x 2000 x 3000 (mm)	1	707	
9	Plate 25 x 1220 x 2440 (mm)	1	585	

Note:

Please submit check list (Annexure-D) along with your quotation, after encircling either "Yes" or "No"

Annexure-D

Technical Check List

1-	All the technical details i.e chemical composition and mechanical properties requirements given in applicable specification KC071-TK001-MS-02 /163 at Annex-E, have been carefully read and completely understood by us.	Yes	No
2-	Mill Test Certificates fulfilling all the requirements of applicable material specification No. KC071-TK001-MS-01 /163 (item nos. 1 ~ 4) and KC071-TK001-MS-02 /163 (item nos. 5 ~ 9) will be provided alongwith supply	Yes	No
3-	NACE Certificate (statement in MTC) verifying that material is in full compliance to NACE standard MR-01-75 is available and will essentially be provided / mentioned. (for item nos. 1 ~ 4)	Yes	No
4-	Delivery condition of S.S plates (sr. 1 ~ 4) will be "Hot Rolled and solution annealed in pickled condition with no.1 finish" and for C.S plates will be "Killed and fine grained steel" (sr. no. 5 ~ 8) and "Normalized" (sr. no.9) and this information will be present in relevant MTC to be provided.	Yes	No
5-	Inter Granular Corrosion Test (IGC) in accordance with ASTM specification A-262 Practice E is to be carried out (For Sr.# 1 & 4) and results will be mentioned in relevant MTCs.	Yes	No
6-	Ultrasonic test as per ASTM A-435 is to be carried out for plate thickness ≥ 12.5mm. (Sr.# 1, 5 & 6) and results will be mentioned in relevant MTCs.	Yes	No
7-	Heat Number, Material Grade, Size of plate and manufacturer's stamp should be marked / stenciled on the plates. Marking on Plates should match with relevant MTCs.	Yes	No
8-	All the Plates to be supplied will be new, straight, dent free & free from defects.	Yes	No
9-	Plates shall be accepted after testing at our Lab/works, if need arise.	Yes	No
10-	Actual variations in thickness, width and length of all the plates is confirmed to be within allowable values / applicable specifications.	Yes	No

Note:

For consideration / approval of offer, this check list must be submitted, after encircling either "Yes" or "No".

Signature/ Stamp of supplier

Product	Stainless Steel Plates
Material	SA-240 / SA-240M 316L
Condition	Hot rolled and solution annealed in pickled condition with no.1 finish.
Technical Requirement	The material furnished under SA-240 / SA-240M 316L shall meet the requirements of ASME B & PV Code Section II Part A (Edition 2007) and ASTM specification A-480 / A-480 M.

Chemical Composition : As per Table below;

Chemical Composition(%)								
C	Mn	P	S	Si	Cr	Ni	N	Mo
≤ 0.03	≤ 2.0	< 0.045	≤ 0.03	≤ 0.75	16~18	10~14	< 0.1	2~3

Mechanical Properties : As per Table below;

Tensile Strength MPa (min)	Yield Strength MPa (min)	Elongation in 50 mm % (min)	Hardness, (max)
485	170	40	Brinell=217 or Rockwell B = 96

Mill Test Reports

- Mechanical test report.
- Chemical analysis report.
- Inter Granular Corrosion Test (IGC) report in accordance with ASTM specification A-262 Practice E.
- Ultrasonic test as per ASTM A-435 is to be carried out for plate thickness ≥ 12.5 mm.

NACE Certificate

Certificate is required that the material is in full compliance with NACE standard MR-01-75

Quality

The furnished plates shall be reasonably straight and having workman like finish.

Product Marking

The manufacturer's name or brand, the specification number and grade, heat number, and size shall be legibly marked on each finished plate.

Product	Carbon Steel Plates
Material	SA 516 / SA 516 M Grade 70
Condition	Killed and fine-grained Steel, Plates >16mm (5/8 in.) thick shall be Normalized
Technical Requirement	The Plates made from material SA 516 / SA 516 M Grade 70 shall meet the requirements of ASME B & PV Code Section II, Part A (Edition 2007) and ASTM specification A-20 / A-20M.

Chemical Composition As per Table below:

	Analysis	Element	Level in % by mass				
			C max	Si	Mn	P max	S max
Heat Analysis	½ in. [12.5 mm] and under	0.27	0.15-0.40	0.79-1.3	0.035	0.035	
	Over ½ in. to 2 in. [12.5 to 50 mm], incl	0.28					
	Over 2 in. to 4 in. [50 to 100 mm], incl	0.30					
	Over 4 to 8 in. [100 to 200 mm], incl	0.31					
	Over 8 in. [200 mm]	0.31					
Product Analysis	½ in. [12.5 mm] and under	0.27	0.13-0.45	0.79-1.3	0.035	0.035	
	Over ½ in. to 2 in. [12.5 mm]	0.28					
	Over 2 in. to 4 in. [50 to 100 mm], incl	0.30					
	Over 4 to 8 in. [100 to 200 mm], incl	0.31					
	Over 8 in. [200 mm]	0.31					

Mechanical Properties As per Table below:

Tensile Strength MPa (min)	Yield Strength MPa (min)	Elongation in 2 inch % (min)
485	260	21

Mill Test Reports

- i) Mechanical test report of each heat.
- ii) Chemical analysis report of each heat.
- iii) Ultrasonic test as per ASTM A-435 is to be carried out for plate thickness ≥ 12.5 mm.

Nondestructive Examination

Visual Examination

Each plate shall be visually examined from all sides. Surfaces shall be free from Cracks, pores, cavities, scaling and thick oxides.

Quality

Plates shall be free of injurious defects and shall have a workman-like finish.

Marking / Identification of Plates

The name or brand of manufactures, heat number, type and grade shall be legibly die stamped or stenciled on each finished plate.