

Annexure-A**CS Plates (SA516-Gr. 70)**

Sr.#	Description	Material	Qty. (Nos.)	Wt.(Kg.) (Approx.)
1	Plate 18 x 2500 x 12000 mm	SA516-Gr. 70 as per attached specification No CP111-TK001-MS-01/ 089 (Rev.0) (Annexure-C)	5	21222
2	Plate 16 x 2500 x 12000 mm		9	33955
3	Plate 6 x 1500 x 4000 mm		2	566

Notes:**Total Wt.= 55743**

1. Mill Test Certificates having Chemical & Mechanical properties have to be supplied with plates as per attached Specification.
2. Heat Number, Material Grade, Size of plate and manufacturer's stamp should be marked / stenciled on the plates. Heat No. should match with relevant MTC.
3. Plates shall be accepted after testing at our works, if required.
4. $\pm 5\%$ variation in weight is allowed.
5. Please submit check list (**Annexure-B**) along with your quotation, after encircling either "Yes" or "No"

Annexure-B

Technical Check List

1- All the technical details i-e chemical composition, mechanical properties and testing requirements given in applicable specification CP111-TK001-MS-01/089 at Annex-C, have been carefully read and understood.	Yes	No
2- Mill Test Certificates fulfilling all requirements of applicable material specification No. CP111-TK001-MS-01/089 will be provided along with supply.	Yes	No
3- All the contents/results of MTCs i-e chemical composition, mechanical properties and testing requirements will be carefully checked and corrected, for complete compliance to applicable specification CP111-TK001-MS-01/089 at Annex-C.	Yes	No
4- Manufacturer's name/logo, Heat Number, Material Grade and Size as per identification/marketing requirements of applicable specification, will be present on the plates.	Yes	No
5- Marking contents of Plates mentioned at point no.4 above, will also be given in relevant MTCs and Heat Numbers marked on plates and MTC will essentially match.	Yes	No
6- The plates shall be uniform in quality and temper, smooth, commercially straight and free of injurious imperfections. No repair welding will be done.	Yes	No
7- The dimensions and quantity of offered plates is according to requirement, in case of alternate size/variation, same has been mentioned in quotation	Yes	No
8- We agree that the plates & their material grade will be examined / tested for final acceptance and verification at our laboratory. In case of rejection of material, supplier is bound to replace the stores at their own cost	Yes	No
9- We confirm that we/material manufacturer have sufficient QA/QC understanding for fulfilling all the essential requirements of applicable material specification regarding MTCs and overall quality of the plates to be supplied.	Yes	No

Note:

This check list must be submitted along with your quotation, after encircling either "Yes" or "No", otherwise the offer may not be entertained.

Annexure-C

Material Specification		No. <u>CP111-TK001-MS-01/ 089</u> Date: <u>22.03.2016</u> Rev. <u>No. 0</u> Page <u>1</u> of <u>2</u>					
Product	: Carbon Steel Plates						
Material	: SA 516 / SA 516 M Grade 70						
Condition	: Killed and fine austenitic grained Steel, Normalized						
Technical Requirement	: The Plates made from material SA 516-70 shall meet the requirements of ASME B & PV Code Section II Part A and SA 20 / SA20M(Edition 2010, add. 2011) and following.						
Chemical Composition : As per Table below;							
Heat Analysis	Analysis		Level in % by mass				
	Element	C max	Si	Mn	P max	S max	
	½ in. [12.5 mm] and under	0.27	0.15-0.40	0.85-1.20	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	0.79-1.30	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;							
Test Temperature	Yield Strength MPa (min)	Tensile Strength MPa (min)	Elongation in 2 inch % (min)				
Room Temp.	260	485	21				
Mill Test Certificate/Reports:							
i) Mechanical test report for each heat of plates.							
ii) Chemical analyses report for each heat of plates.							

Material Specification	No. <u>CP111-TK001-MS-01/ 089</u> Date: <u>22.03.2016</u> Rev. <u>No. 0</u> Page <u>2</u> of <u>2</u>
<ul style="list-style-type: none"> - Visual Examination Each plate shall be Visually examined from all sides. Surfaces shall be free from Cracks, pores, cavities, scaling, thick oxides, surface finish and fulfil the requirements of mentioned dimensions. - Impact Test: Plates and welded material are to be impact tested using Charpy V-Notch Tests (CV), shall meet the requirements as stated in ASTM A-20/ ASME SA-20. - UT Plates with thickness > 12.5mm, shall be ultrasonically tested and accepted as per A 435/A 435M. - Quality <ul style="list-style-type: none"> ▣ Plates shall be free of injurious defects and shall have a workman like finish. ▣ All surface of the product shall be cleaned to remove rust, grease dirt or foreign materials. ▣ Plates shall be of discrete cut lengths of flat product. - Repair Any repair by welding shall not be performed. - Marking / Identification of Plates The name or brand of manufactures, heat number, type and grade shall by legibly die stamped or stencilled on each finished plate. - Reports: Mill Test Reports showing that plates have been made to the requirements as mentioned above and as given in relevant section of ASME and ASTM standard, shall be submitted. Certificates shall be traceable to the supplied plates. <p>Note: All certificates/reports must be in English language</p>	