

Laboratory	Sandvik Asia Pvt. Ltd., Village: Rajpur, Taluka: Kadi, Dist. Mehsana, Gujarat		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Mechanical Testing	Issue Date	23.02.2015
Certificate Number	T-3305	Valid Until	22.02.2017
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S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
I.	MECHANICAL PROPERTIES OF MATERIALS			
1.	Ferrous & Non-ferrous Metals and Alloys (Tubes/Pipes/Hollows)	Tensile Test		
		0.2 % Yield Strength /Proof Stress	ASTM A 370-14 ASTM E8-14 EN10002 : 2001	10 kN to 600 kN
		1 % Yield Strength /Proof Stress		
		Ultimate Tensile Strength		
		% Elongation		2% to 70 %
		Rockwell Hardness	ASTM E18-14	30 HRBW to 100 HRBW 20 HRC to 68 HRC
		Flattening Test	ASTM A370-14 EN 10233 - 1994	OD: 9 mm to 250 mm Qualitative
		Flaring/Drift Expanding Test	ASTM A370 -14 EN 10234 - 1994	OD: 3 mm to 80 mm Qualitative
II.	METALLOGRAPHY TEST			
1.	Ferrous & non-ferrous Metals & Alloys (Tubes/Pipes/Hollows)	Grain Size	ASTM E 112 -13 (Comparison Method)	ASTM Grain Size No. 3 to 10 Qualitative
		Microstructure Characterisation	ASTM E407-07 ASM Metal Handbook Vol. 7(Atlas of Microstructures 8 th Edition)	Qualitative

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	Ferrous & non-ferrous Metals & Alloys (Tubes/Pipes/Hollows)	Quantitative Metallography	ASTM E 562-11	5 % to 80 %
		Intermetallic Phases	ASTM A 923-14 Method A	Qualitative
2.	Corrosion Tests : Austenitic Stainless Steels	susceptibility to Intergranular attack in Austenitic Steels		
		Oxalic Acid Etch test	ASTM A 262-14, Practice A	Qualitative
		Copper – Copper Sulphate – Sulphuric acid test	ASTM A 262 -14, Practice E	Qualitative
3.	Duplex Stainless Steels	Ferric Chloride Corrosion test for classification of structure of Duplex Stainless steel	ASTM A923 - 14, Method C	Qualitative Presence/Absence of pits - Corrosion rate 2 mdd to 20 mdd - Presence of unacceptable Intermetallic phases if corrosion rate > 10 mdd.
4.	Stainless Steels	Pitting Corrosion test	ASTM G48 -11, Method A	Qualitative Presence/ Absence of pits - Evaluation of pit depth/ Pit density (No. of pits per unit area)

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