

Laboratory **Sueeraa Alloys Global (P) Ltd., No. 315/2, Kandampalayam, Sembianallur Village, Avinashi, Coimbatore, Tamil Nadu**

Accreditation Standard **ISO/IEC 17025: 2005**

Certificate Number **TC-7684 (in lieu of T-4107 & T-4108)** **Page 1 of 4**

Validity **06.09.2018 to 05.09.2020** **Last Amended on --**

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
<b><u>CHEMICAL TESTING</u></b>				
<b>I.</b>	<b>METALS &amp; ALLOYS</b>			
<b>1.</b>	<b>Ferrous Metals &amp; Alloys (Carbon &amp; Low Alloys Steels)</b>	C	IS8811	0.08% to 0.50%
		Si		0.20 % to 1.20%
		Mn		0.15 % to 0.80%
		P		0.006 % to 0.060%
		S		0.010 % to 0.050%
		Cr		0.10 % to 5.00%
		Ni		0.10 % to 5.0%
		Mo		0.09 % to 1.30%
		Al		0.01 % to 0.15%
		Cu		0.05 % to 0.70%
		Nb		0.0007 % to 0.030%
		Ti		0.001 % to 0.015%
		V		0.002 % to 0.80%
		W		0.002 % to 0.090%
<b>2.</b>	<b>Ferrous Metals &amp; Alloys (Austenitic, Duplex Stainless Steel)</b>	C	ASTM E 1086 IS 9879	0.01 % to 0.10%
		Si		0.25 % to 0.50%
		Mn		0.40 % to 1.70%
		P		0.007 % to 0.140%
		S		0.006 % to 0.030%
		Cr		8.00 % to 26.00%
		Ni		0.25 % to 10.50%
		Mo		0.30 % to 3.50%
		Cu		0.030 % to 1.50%
		Co		0.020 % to 0.350%
		Nb		0.008 % to 0.100%
		V		0.035 % to 0.10%
		W		0.050 % to 0.10%
		N		0.030 % to 0.250%

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3.	Ferrous Metal & Alloys (High Nickel Alloys)	C	QC-WI-02 Issue No:01 Dated 18.07.2018	0.005 % to 0.060%
		Si		0.030 % to 1.00%
		Mn		0.30 % to 0.850%
		P		0.003 % to 0.10%
		Cr		21.0 % to 22.0%
		Mo		8.50 % to 14.00%
		Cu		0.020 % to 0.070%
		V		0.020 % to 0.20%
		W		0.122 % to 3.00%
		Fe		2.50 % to 4.50%
		Nb		0.03 % to 4.50%

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<b><u>MECHANICAL TESTING</u></b>				
<b>I.</b>	<b>MECHANICAL PROPERTIES OF METALS</b>			
<b>1.</b>	<b>Ferrous / Non Ferrous Alloys &amp; Castings</b>	<b>Tensile Test</b> Tensile Strength 0.2, 1.0% PS %EL % RA	ASTM A370 EN ISO 6892-1 ASTME8/E8M ISO 4739 ASTM B 557	25 Mpa to 1000 Mpa (5 kN to 350 kN) 1 % to 70% 1 % to 70%
		<b>Tensile Test</b> ( Elevated Temp)	ASTM E-21 EN ISO 6892-2	
		Bend Test	ASTM A370 ASTM A488 IS 1599	Mandrel size, 5, 12, 20, 26,32,& 60 mm
		Charpy Impact Test	ASTM A370 EN ISO 148-1 ASTM E23	5 Joules to 250 Joules (RT to (-)196°C)
		Brinell Hardness Test	ASTM A370 ASTM E10 EN ISO 6506-1	10/3000 kg 5/750 kg 130 kN to 350 HBW
<b>2.</b>	<b>Ferrous / Non Ferrous Alloys Welded Items</b>	<b>Tensile Test</b> Tensile Strength	ASME SEC IX IBR 1950	25 kN to 1000 Mpa (5 kN to 350 kN)
		Bend Test		Mandrel size, 5, 12, 20, 26,32,& 60 mm
		Charpy Impact Test		5 Joules to 250 Joules (RT to-196°C)
		Brinell Hardness Test		10/3000 kg 5/750 kg 130 to 350 HBW

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<b>II.</b>	<b>METALLOGRAPHY TEST</b>			
<b>1.</b>	<b>Ferrous / Non Ferrous Alloys &amp; Castings and Welded Items</b>	Micro structure	ASM Hand Book Volume 9 ASTM E3	Magnification 50X, 100X, 200X, 250X, 400X, 500X
		Grain Size	ASTM E112	
<b>2.</b>	<b>Stainless Steel Alloys &amp; Castings and Welded Items</b>	Corrosion Test	ASTM A262 Practice B	2 mpy to 100 mpy
			ASTM A262 Practice E ISO 3651-2	Bend Test (1t-180°, 4t, 180°)
<b>3.</b>	<b>SS, Duplex SS, High Nickel Alloys &amp; Castings and Welded Items</b>	Corrosion Test	ASTMG48 (15) Method A ASTMG28 (15) Method A	2 mpy to 100 mpy