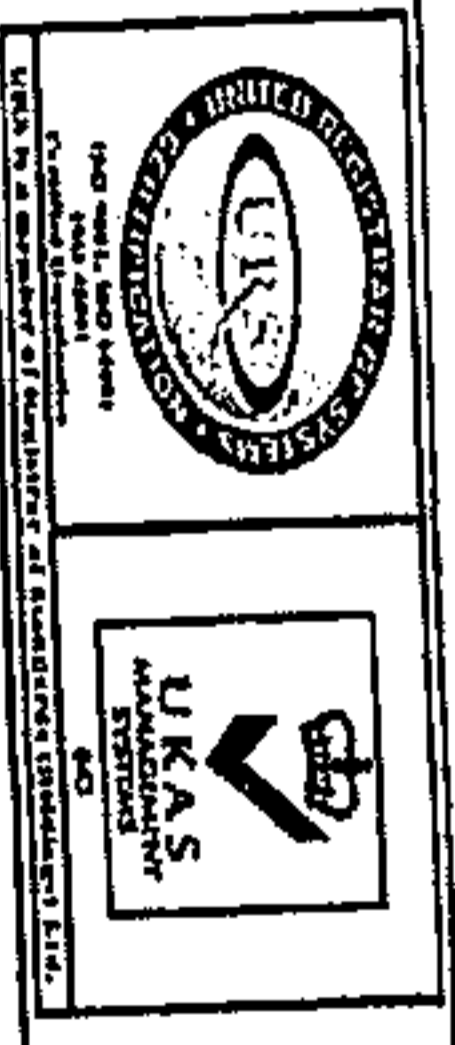




TSI METAL INDUSTRIES LLC
 P.O. BOX: 31165, ICAD-II, ABU DHABI, U.A.E.
MANUFACTURER TEST CERTIFICATE



ORIGINAL

HOUSTON, TEXAS 77056

25.182

CI

P.O. NO.:

WE CERTIFY THAT THE MATERIAL DESCRIBED BELOW FULLY CONFORMS TO ASTM A53. THE CHEMICAL COMPOSITION & MECHANICAL TESTING CONFORMS TO ASTM A53-20 GRADE-B

REFER TO ASTM A53 FOR DETAILS OF SPECIFICATION REQUIREMENTS.

DATE : 10-FEB-2022
 MTC NO. : TSI/EXP/22-0073
 EXP NO. : 21-317
 INV NO. : TSI/EX/22/000003

MATERIAL DESCRIPTION - PRIME NEWLY PRODUCED ERW STEEL PIPE CONFORMING TO ASTM A53-20 GRADE-B

S.No.	Item	Outside	Thickness	Length	Weight	Quantity	Surface	Ends	Batch No	Heat No	Heat Treatment - 540°C Min	Eddy Current Test	Flattening/Bend Test (at 0° and 90°)	Hydro Test Pressure	Avg. Zinc Coating																																																																																																														
		Diameter	Inch													Feet	lbs/FT	Finish	Bevel End	Bevel End	Bevel End	Bevel End	Bevel End	Bevel End	Bevel End	Bevel End	Bevel End	Bevel End																																																																																																	
1	2" X SCH-40	2.375	0.154	21	3.66	650	Black	Bevel End	2067/211127	B10385	OK	OK	OK	2500	N/A																																																																																																														
2	2" X SCH-40	2.375	0.154	21	3.66	494	Black	Bevel End	2071/211223	2136253	OK	OK	OK	2500	N/A																																																																																																														
3	2 1/2" X SCH-40	2.875	0.203	21	5.80	756	Black	Bevel End	2069/211207	A147523	OK	OK	OK	2500	N/A																																																																																																														
4	3" X SCH-40	3.500	0.216	21	7.58	588	Black	Bevel End	3074/211215	2142218	OK	OK	OK	2370	N/A																																																																																																														
5	3 1/2" X SCH-40	4.000	0.226	21	9.12	324	Black	Bevel End	2065/211118	A147562	OK	OK	OK	2210	N/A																																																																																																														
6	4" X SCH-40	4.500	0.237	21	10.80	620	Black	Bevel End	3064/211108	A245827	OK	OK	OK	1950	N/A																																																																																																														
7	5" X SCH-40	5.563	0.258	21	14.63	140	Black	Bevel End	3071/211205	A147557	OK	OK	OK	1780	N/A																																																																																																														
8	6" X SCH-40	6.625	0.280	21	18.99	161	Black	Bevel End	3068/211122	A147519	OK	OK	OK	1780	N/A																																																																																																														
9	6" X SCH-40	6.625	0.280	21	18.99	287	Black	Bevel End	3075/211219	2140213	OK	OK	OK	1780	N/A																																																																																																														
<p>Chemical Composition / Analysis (MAX)</p> <table border="1"> <thead> <tr> <th>Heat No</th> <th>C%</th> <th>Mn%</th> <th>P%</th> <th>S%</th> <th>Cr%</th> <th>Mo%</th> <th>Ni%</th> <th>V%</th> <th>(Cu+Ni+Cr+Mo+V)%</th> </tr> </thead> <tbody> <tr> <td>810385</td> <td>0.300</td> <td>1.200</td> <td>0.0500</td> <td>0.0450</td> <td>0.4000</td> <td>0.4000</td> <td>0.0800</td> <td>0.0220</td> <td>1.0000</td> </tr> <tr> <td>2136253</td> <td>0.159</td> <td>0.890</td> <td>0.0150</td> <td>0.0034</td> <td>0.0110</td> <td>0.0000</td> <td>0.0050</td> <td>0.0020</td> <td>0.0220</td> </tr> <tr> <td>A147523</td> <td>0.095</td> <td>0.534</td> <td>0.0050</td> <td>0.0040</td> <td>0.0390</td> <td>0.0010</td> <td>0.0030</td> <td>0.0010</td> <td>0.0760</td> </tr> <tr> <td>2142218</td> <td>0.139</td> <td>0.808</td> <td>0.0230</td> <td>0.0029</td> <td>0.0190</td> <td>0.0010</td> <td>0.0210</td> <td>0.0010</td> <td>0.0500</td> </tr> <tr> <td>A147562</td> <td>0.090</td> <td>0.579</td> <td>0.0045</td> <td>0.0029</td> <td>0.0130</td> <td>0.0090</td> <td>0.0110</td> <td>0.0010</td> <td>0.0340</td> </tr> <tr> <td>A245827</td> <td>0.137</td> <td>0.850</td> <td>0.0180</td> <td>0.0040</td> <td>0.0220</td> <td>0.0010</td> <td>0.0270</td> <td>0.0010</td> <td>0.0550</td> </tr> <tr> <td>A147519</td> <td>0.141</td> <td>0.860</td> <td>0.0220</td> <td>0.0020</td> <td>0.0260</td> <td>0.0080</td> <td>0.0230</td> <td>0.0010</td> <td>0.0630</td> </tr> <tr> <td>2140213</td> <td>0.138</td> <td>0.840</td> <td>0.0110</td> <td>0.0080</td> <td>0.0150</td> <td>0.0090</td> <td>0.0230</td> <td>0.0010</td> <td>0.0490</td> </tr> <tr> <td></td> <td>0.139</td> <td>0.840</td> <td>0.0180</td> <td>0.0020</td> <td>0.0160</td> <td>0.0090</td> <td>0.0230</td> <td>0.0010</td> <td>0.0500</td> </tr> <tr> <td></td> <td>0.101</td> <td>0.561</td> <td>0.0051</td> <td>0.0051</td> <td>0.0190</td> <td>0.0060</td> <td>0.0300</td> <td>0.0030</td> <td>0.0920</td> </tr> </tbody> </table>																Heat No	C%	Mn%	P%	S%	Cr%	Mo%	Ni%	V%	(Cu+Ni+Cr+Mo+V)%	810385	0.300	1.200	0.0500	0.0450	0.4000	0.4000	0.0800	0.0220	1.0000	2136253	0.159	0.890	0.0150	0.0034	0.0110	0.0000	0.0050	0.0020	0.0220	A147523	0.095	0.534	0.0050	0.0040	0.0390	0.0010	0.0030	0.0010	0.0760	2142218	0.139	0.808	0.0230	0.0029	0.0190	0.0010	0.0210	0.0010	0.0500	A147562	0.090	0.579	0.0045	0.0029	0.0130	0.0090	0.0110	0.0010	0.0340	A245827	0.137	0.850	0.0180	0.0040	0.0220	0.0010	0.0270	0.0010	0.0550	A147519	0.141	0.860	0.0220	0.0020	0.0260	0.0080	0.0230	0.0010	0.0630	2140213	0.138	0.840	0.0110	0.0080	0.0150	0.0090	0.0230	0.0010	0.0490		0.139	0.840	0.0180	0.0020	0.0160	0.0090	0.0230	0.0010	0.0500		0.101	0.561	0.0051	0.0051	0.0190	0.0060	0.0300	0.0030	0.0920
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IT IS FURTHER CERTIFIED THAT THE ABOVE MATERIAL CONFORMS TO THE DIMENSIONAL AND WEIGHT TOLERANCE OF THE SPECIFICATION ASTM A53.
 TOLERANCE : FOR ϕ 48.3 OD TO 40MM & >48.3MM OD \pm 1%, THICK -12.5%, WEIGHT \pm 10%, WORKMANSHIP : CONFORMS TO ASTM A53 & P.O., BEVEL ANGLE: 30°-35° WHEREVER APPLICABLE
 ALL THE PIPES WERE CONTINUOUSLY STENCILED WITH MARKING AS UNDER:
 (U) LISTED EX26998 TIGER/MADE IN UAE ASTM A53 NPS - INCH SCH-40 GR.B TYPE ENDE LENGTH - FEET HEAT NO. RWP 300PSI HTP ---- PSI <FNI>

NARENDRA KUMAR
 MANAGER (QUALITY)