



**ISPAT INDUSTRIES LTD., KALMESHWAR**

**Quality Assurance Department**

**Technical Delivery Conditions (TDC)**

**HIGH STRENGTH GALVANIZED STRUCTURAL STEEL**

<b>Date of Issue</b>	16.03.2006	<b>Revision No.</b>	00	<b>Document No.</b>	IIL/KLM/PD/GI/TDC/003
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<b>Application</b>	<b>1</b>	Z Purlin
	<b>2</b>	Bus Body
	<b>3</b>	Automobile furniture etc.

<b>Equivalent ref. Grade</b>	<b>Specified Grade</b>

<b>Chemistry,wt%</b>	<b>Range</b>	<b>C</b>	<b>Si</b>	<b>S</b>	<b>P</b>	<b>Mn</b>	<b>Ni</b>	<b>Cr</b>	<b>Cu</b>	<b>Mo</b>	<b>Nb</b>	<b>Ti</b>	<b>Al</b>	<b>N ppm</b>
<b>350 Mpa</b>	Min.	0.050	0.030	-	-	0.800	-	-	-	-	-	-	0.020	-
	Max.	0.065	0.060	0.010	0.020	0.900	-	-	-	-	-	-	0.030	-
<b>450 Mpa</b>	Min.	0.040	-	-	-	0.800	-	-	-	-	-	-	0.025	-
	Max.	0.065	0.200	0.010	0.020	0.950	-	-	-	-	-	-	0.035	-

<b>Mechanical Properties</b>	<b>Range</b>	<b>YS</b>	<b>UTS</b>	<b>% Elongation</b>		<b>Bend Test</b>	<b>ECV</b>	<b>r-bar</b>	<b>n-val</b>	<b>HRB</b>
		<b>Mpa</b>	<b>Mpa</b>	<b>50 GL</b>	<b>80 GL</b>	<b>180°</b>	<b>mm</b>			
<b>350 Mpa</b>	Min.	350	460	14	-	-	-	-	-	65
	Max.	-	-	-	-	-	-	-	-	75
<b>450 Mpa</b>	Min.	450	550	12	-	-	-	-	-	70
	Max.	-	-	-	-	-	-	-	-	80

**Surface Finish:** Regular spangle / Skinpass - suppressed spangles

**Process Capability:**

	<b>Range</b>	<b>Thickness, mm</b>	<b>Width, mm</b>	<b>Length, mm</b>	<b>Zinc Coating, GSM</b>
<b>350 / 450 Mpa</b>	Min	0.50	-	As per	80
	Max	3.00	1250	Requirement	275

**Note:**

<b>1</b>	
<b>2</b>	

**Coil Weight:** 10 MT max.                      **Coil Internal Diameter:** 508 mm / 20"                      **Packet Weight:** 2.00 - 3.00 MT

**Process Route:**

HR Coil --Pickling-->Rolling Mill --> Galvanizing --> Finishing --> Packing --> Despatch

**Certification:**

The Mill Test Certificate (MTC) gives the results of all the tests required by the standards for each grade (Chemistry, Mechanical).

**Tolerances:** Please refer annexure : GP SPECIFICATION

<b>Prepared by:</b>	<b>Approved by:</b> Dr.N.C.Jain Vice President - QA	<b>Issued by:</b>
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