

IS: 2041- 2009 Mechanical Properties

(Steel Plates for pressure vessels used at moderate and low temperature)

Grade	Yield Stress MPa, min				Tensile Strength MPa	Elongation percent on Gauge Length 5.65 $\sqrt{S_0}$, min	Impact Energy (J) min at a temperature in °C				0.2% proof stress at 300° C MPa, min				
	< = 16	> 16 to 40 mm	> 40 to 60 mm	> 60 to 100 mm			20	0	−20	−40					
R 220	220	220	220	220	415-540	21	50	40	27	20	—	Impact test optional for R 220 and R 260			
R 260	260	260	260	260	490-620	21	50	40	27	20	—				
R 275	275	265	255	235	390-510	23	80	70	50	40	—				
R 355	355	345	335	315	490-640	21	80	70	50	40	—				
H 235	235	225	215	200	360-480	24	40	34	27	—	153				
H 265	265	255	245	215	410-530	22	40	34	27	—	173				
H 295	295	290	285	260	460-580	21	40	34	27	—	192				
H 355	355	345	335	315	510-650	20	40	34	27	—	232				

NOTES :

1. Impact test shall be at any one temperature as mutually agreed.
2. Impact test is optional for Grades R220 and R260.
3. The orientation of Impact test specimen shall be longitudinal to the rolling direction for R220, R260, R275, R355 grades and transverse to the rolling direction for H235, H265, H295 and H355 grades.
4. Stringent impact test temperature and values can be mutually agreed.
5. For thickness > 100 mm, Yield stress to be mutually agreed.