

**MATERIAL NO.:**

**1.0577**

**DESIGNATION:**

**DIN:** S 355 J2 (St 52-3)  
**AFNOR:** A 52 FP  
**UNI:** -  
**AISI:** A738

**TECHNICAL TIP:**

» If no welding is required, we recommend 1.1730 - better machinability in spite of higher strength

**INDICATORY ANALYSIS:**

C ≤ 0.22  
 Si ≤ 0.55  
 Mn ≤ 1.60

**STRENGTH:**

132 - 185 HB  
 (≈ 450 - 630 N/mm<sup>2</sup>)

**THERMAL CONDUCTIVITY AT 20°C:**

40  $\frac{W}{m K}$

**COEFFICIENT OF THERMAL EXPANSION**  
 [10<sup>-6</sup>/K]

100°C	200°C	300°C	400°C	500°C	600°C	700°C
11.1	12.1	12.9	13.5	13.9		

**CHARACTER:**

» Unalloyed **structural steel** with good weldability

**APPLICATION:**

» For common applications in mould, die, and jigs and fixtures construction

**TREATMENT BY:**

» Welding:  
 very good weldability due to its low carbon content  
 » Polishing, etching, EDM, nitriding, hard chroming:  
 not usual

**HEAT TREATMENT:**

» Soft annealing:  
 650 to 700°C for about 2 to 5 hours  
 slow controlled cooling inside the furnace: 10 to 20°C per hour to about 600°C;  
 further cooling in air, **max. 180 HB**