FC25 Cast Iron

Common Name:
- ASTM A.48: Class 35 – 40
- BS 1452: Grade 17
- AS 1830: T260
- DIN 1691: GG35
- JIS: FC25

Typical Chemical Analysis:
- Aluminum (Al): <0.01%
- Copper (Cu): <0.3%
- Nickel (Ni): 0.08%
- Phosphorus (P): <0.1%
- Silicon (Si): 2.2 – 2.9%
- Sulfur (S): <0.08%
- Manganese (Mn): 0.2 %– 0.7%
- Carbon (C): 3% - 3.7%
- Chrome (Cr): <0.08%
- Molybdenum (Mo): <0.01%
- Titanium (Ti): <0.05%

Typical Physical Properties:
- Hardness (HB): 170Min.
- Tensile Strength: 180 - 220 MPa Min.
- Machinability: 30

Fabrication Practices:
- Joining /solderability: Joining by nickel-iron electrode (containing 55% nickel and 45% Fe) is excellent
- Resistance wielding: Not recommended
- Brazing: Brazing with silver alloy of low silver content
- Oxyacetylene wielding: Good
- ARC wielding: Good

Background:
Gray Iron is the least expensive of all cast metals. Due to its low cost, it should always be considered first when a cast metal is selected. Another metal should be chosen only when the mechanical or physical properties of gray iron are inadequate. The machinability of most gray iron is superior to that of virtually all steel because of the graphite present. Gray iron may also be heat treated in softening for better machinability or hardening for wear resistance. Repair by welding is also possible by shield metal arc or oxyacetylene gas.

Usage:
Pistons, support bearings, spindle sleeves spacers, shock absorber, clutch drums, V-pulleys, sprockets, guide rails, distributor blocks.