Kormax Cast Iron
3D

Material Data Sheet

Kormax Cast Iron is available in a ductile iron that has a stock grade of 3D and is otherwise known as spheroidal graphite or nodular iron. The material is high strength, ductile, and more readily machined than other styles of cast iron. Its properties include being highly elastic, resistant to impact, and is suitable for applications involving thermal and mechanical shock. 3D Ductile Iron is also the preferred choice for making hydraulic cylinder components.

Chemical Composition (%)

Element		3D Range %
Carbon	C	3.35
Manganese	Mn	0.30
Silicon	Si	2.50
Nickel	Ni	0.03
Chromium	Cr	0.02
Molybdenum	Mo	0.01
Phosphorus	P	0.10
Sulfur	S	0.01
Magnesium	Mg	0.04
Copper	Cu	0.05
Iron	Fe	Balance

Mechanical Properties

Material Specification	Material Section	0.2% Proof Strength (N/mm² min.)	Tensile Strength (N/mm² min.)	Elongation (% min.)
Kormax 3D Cast Iron Bar (According to EN 16482:2014, subsequently EN 1563:2012)	20 mm - 60 mm	195	195	15
	>60 mm - 120 mm	180	180	14
	>120 mm - 400 mm	165	165	11

Brinell Hardness Range: *(Informative)*	120-180 HB measured as an average of the center and the rim area of the bar (10 mm diameter ball).
Microstructure: *(Informative)*	Nodular graphite. The matrix is approx. 20% or less pearlitic and may contain minor quantities of free carbides.
Heat Treat Response: *(treatment)*	Kormax 3D Cast Iron is not recommended for hardening and tempering.
Density:	7.25 g/cc + 3% for oversize and gross length of bar.