

DATA SHEET

Ductile (Spheroidal Graphite) Cast Iron

TY Grade HD7, HD7M (GCD700, FCD700)

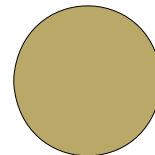
- Characteristics:** HD7 offers improved wear resistance, increased strength with superior heat treatment response, compared to other nodular grades, while still possessing reasonable machinability with an excellent surface finish.
- Conforms:** ASTM A536 Grade 100-70-02, EN-16482:2014 EN-GJS-700-2, JIS G-5502 FCD700-2
- Size Range:**

STANDARD SIZE AND SUPPLY.		
Concast (HD6)	Round	Ø25mm ~ Ø260mm
	Square & Rectangle	■40×50 ~ ■205×220
Mold Cast (HD6M)	Round	Ø270mm ~ Ø510mm (proof machined)
	Square & Rectangle	■200×250 ~ ■500×600
Standard Sizes	Length	· Continuous Cast Iron Bar: 3m(3000mm) · Metal Mold Cast: max. 1m(1000mm)
	Supply condition	· As-cast. Cut. · Round: turned and peeled · Square&Rectangle: milled (proof machined)
Non-Standard Sizes		other lengths available

4. Chemistry: Typical Ranges:(Analysis at the discretion of T-Y)

Color Code

ELEMENT	TYPICAL(%)
Carbon	2.90~3.90
Silicon	2.20~3.40
Manganese	max. 0.70
Phosphorous	max. 0.10
Sulfur	max. 0.02
Magnesium	max. 0.065



5. Mechanical Properties: (Taken from mid-radius of cast bar, not separately cast test bar)

Material grade	Diameter(D) (mm)	0.2% Proof Stress min. (N/mm ²)	Tensile (UTS) min. (N/mm ²)	Elongation min. (%)	BHN 3000kgf (10mm dia Ball)
HD7	D < 60	420	700	2	max. 305
	60 < D ≤ 200	400	700	2	
	200 < D ≤ 400	380	650	1	

6. Microstructure: Contains Type V&VI nodular(spheroidal) graphite in accordance with ISO 945

- Nodularity: ≥80%
- Nodular Count(approximately): Rim Zone ≥200 nodules/mm²
Core Zone ≥80 nodules/mm²
- Ferritic/Pearlitic: 70% over pearlite (core matrix)



7. Application:

Cylinder Blocks, Manifolds, Rotors, Valves, Gears, Pulleys
Rotary Screws, Blank Molds and so on.