



## Abrasion-Resistant Cast Iron ASTM A532 Class II type D

20% Cr-Mo is a popular abrasion resistant cast iron in ASTM A532 standard Class II type D; it is one type of White Iron.

### Casting Methods in Casting Quality Industrial:

- Sand Casting
- Shell Casting

### Equivalent Abrasion-Resistant Cast Iron Grade:

EN 12513 Grade EN-GJN-HB555(XCr18) EN 5.5609

### Reference Casting Standards:

#### ASTM A532 Standard Specification for Abrasion-Resistant Cast Irons

#### ASTM A532 Class II type D Designation 20% Cr-Mo chemistry requirement:

[www.castingquality.com](http://www.castingquality.com)

Standard	ASTM A532
Class	II
Type	D
Designation	20% Cr-Mo
Carbon %	2.0-3.3
Manganese %	2.0 max
Silicon %	1.0-2.2
Nickel %	2.5 max
Chromium %	18.0-23.0
Molybdenum %	3.0 max
Copper %	1.2 max
Phosphorus %	0.10 max
Sulfur %	0.06 max



#### ASTM A532 Class II type D Designation 20% Cr-Mo Mechanical Property:

No requirement about tensile/yield and elongation. [www.castingquality.com](http://www.castingquality.com)

#### ASTM A532 Class II type D Designation 20% Cr-Mo Hardness Requirements:

Standard	ASTM A532
Class	II



Type	D	
Designation	20% Cr-Mo	
As Cast or As cast and Stress relieved	450HB/46HRC/485HV	
Hardened or Hardened and Stress Relieved	Level 1	600HB/56HRC/660HV
	Level 2	650HB/59HRC/715HV
Chill Cast, min	-	
Softened, max	400HB/41HRC/430HV	

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### ASTM A532 Class II type D Designation 20% Cr-Mo Heat treatment process

It will be up to the hardness requirement: as Cast, as Cast and Stress relieved, Hardened, Hardened and stress relieved, Softened for machining. [www.castingquality.com](http://www.castingquality.com)

### ASTM A532 Class II type D Designation 20% Cr-Mo Typical Casting Application:

- Pump industry.
- Mining industry, crusher liner, chute liner.
- Oil or recycling.

### What is White Iron?

When white iron solidifies, virtually all the carbon appears in the form of carbides, White irons are hard and brittle, and they break with a white fracture. These irons are usually alloyed with Chromium and Nickel. The hardness is in the range of 500 to 600 BHN, the specific alloying that is required in a function of section size and application; there must be coordination between designer and foundry. These irons exhibit outstanding wear resistance and are used extensively in the mining industry for ball mill shell liners, balls, impellers, and slurry pumps. [www.castingquality.com](http://www.castingquality.com)