

# Material: ASME SA 660 Grade WCC

## Standard Specification for Carbon Steel Pipe Made by The Centrifugal Casting Process Intended for Use in High-Temperature, High-Pressure Service

**Group:** Ferrous Mild Steel Alloys

**Sub Group:** ASME SA 660 Grade WCC Carbon Steel Pipe Made by The Centrifugal Casting Process Intended for Use in High-Temperature, High-Pressure Service

**Application:** Intended for Valve, Pump, General Engineering, Automotive and Other Industries

**Grade Belongs to the Industry:** Centrifugal Casting

Chemical Composition		
Carbon	C %	0.250 max.
Silicon	Si %	0.600 max.
Manganese	Mn %	1.200 max.
Phosphorus	P %	0.035 max.
Sulphur	S %	0.035 max.
Chromium	Cr %	0.500 max.
Nickel	Ni %	0.500 max.
Molybdenum	Mo %	0.200 max.
Copper	Cu %	0.300 max.
Vanadium	V %	0.030 max.
other	%	1.000 max.
Iron	Fe %	Balance
-	-	-
-	-	-
-	-	-

Heat Treatment
Normalizing or Annealing or Hardening + Tempering

Mechanical Properties	
Tensile Strength in Mpa	485 - 655
Yield Strength in Mpa	275 min.
Elongation in %	22 min.
Reduction of Area in %	35 min.
Hardness in BHN	-
Impact in Joule	-

Cross Reference Table			
Material	Standard	Country	Grade Belong to the Industry
A660 WCA	ASTM	USA	Fusion Welding, Bending and Forming
SA 216 WCC	ASME	USA	Casting
JO2503	UNS	USA	Casting
1.0619	EN	European Union	Casting
1.0619	DIN	Germany	Casting
A216 WCB	ASTM	USA	Casting
A216 WCC	ASTM	USA	Casting

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