GRAVITY CAST PVT. LTD.
GRAVITY GROUP OF COMPANIES

Material - ASTM A335 Grade P23

Standard Specification for Seamless Ferritic Alloy-Steel Pipe for High-Temperature Service

Group - Ferrous Mild Steel Alloys

Sub Group - ASTM A335 Grade P23 Seamless Ferritic Alloy-Steel Pipe for High-Temperature Service

Application - Intended for Valve, Pump, General Engineering, Automotive and other Industries

Grade Belongs to the Industry - Pipe

Chemical Composition		
Carbon	C %	0.040 - 0.100
Manganese	Mn %	0.100 - 0.600
Phosphorus	P %	0.030 max.
Sulphur	S %	0.010 max.
Silicon	Si %	0.500 max.
Chromium	Cr %	1.900 - 2.600
Molybdenum	Mo %	0.050 - 0.300
Vanadium	V %	0.200 - 0.300
Niobium	Nb %	0.020 - 0.080
Boron	B %	0.0005 - 0.0060
Nitrogen	N %	0.030 max.
Aluminium	Al %	0.030 max.
Tungsten	W %	1.450 - 1.750
Iron	Fe %	Balance
-	-	-

Heat Treatment
As-Raw or Annealing or Isothermal Annealing or Normalizing & Tempering

Mechanical Properties	
Tensile Strength in Mpa	510 min.
Yield Strength in Mpa	400 min.
Elongation in %	30 min.
Reduction of Area in %	-
Hardness in HB	-
Impact in Joule	-

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Cross Reference Table			
Material	**Standard**	**Country**	**Grade Belong to the Industry**
K41650	UNS	USA	Steel
K40712	UNS	USA	Steel
SA-1017 Grade 23	ASME	USA	Steel and Plates
SA-335 Grade P23	ASME	USA	Steel and Pipe
A 182 F 23	ASTM	USA	Steel and Pipe
A 1017 Grade 23	ASTM	USA	Steel and Plates
A 213 T23	ASTM	USA	Steel and Tubing

Further any inquiry to discuss with Gravity Cast Pvt. Ltd. – Gravity Group of Companies team member Call on +918469160029, or email marketing@gravitycastindia.com

All information in our data sheets and website is indicative only and is not intended to be a substitute for the full specification from which it is extracted. It is intended to provide typical values to allow comparison between metal alloy option rather than a definitive statement of mechanical performance or suitability for a particular application as these will vary with temperature, product type and product application. It is presented apart from contractual obligations and does not constitute any guarantee of properties or of processing or application possibilities in individual cases. Our warranties and liabilities are stated exclusively in our terms of business.