



**GRAVITY CAST PVT. LTD.**  
**GRAVITY GROUP OF COMPANIES**

## Material - SAE 1022

**Standard Specification For Carbon Steel Compositions For Forging To Hot-Rolled And Cold-Finished Steel, Bar and Forging**

**Group - Ferrous Mild Steel Alloys**

**Sub Group - SAE 1022 Carbon Steel Compositions For Forging To Hot-Rolled And Cold-Finished Steel, Bar and Forging**

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

**Grade Belongs to the Industry - Steel, Bar and Forging**

Chemical Composition			Heat Treatment	
Carbon	C %	0.180 - 0.230	As Raw or Annealing or Normalizing or Hardening and Tempering	
Manganese	Mn %	0.700 - 1.000		
Phosphorus	P %	0.040 max.		
Sulphur	S %	0.050 max.		
Aluminium	Al %	0.020 - 0.050		
Niobium	Nb %	0.020 - 0.050		
Silicon	Si %	0.150 - 0.350		
Vanadium	V %	0.020 - 0.080		
Iron	Fe %	Balance		
-	-	-	<b>Mechanical Properties</b>	
-	-	-	Tensile Strength in Mpa	379 min.
-	-	-	Yield Strength in Mpa	230 min.
-	-	-	Elongation in %	15 min.
-	-	-	Reduction of Area in %	40 - 47
-	-	-	Hardness in HB	121 - 137
-	-	-	Impact in Joule	-

Cross Reference Table			
Material	Standard	Country	Grade Belong to the Industry
G10220	UNS	USA	Bars, Wire Rods and Tubing
1022	AISI	USA	Steel, Bar and Forging
A 1040 1022	ASTM	USA	Steel
A 108 Grade 1022	ASTM	USA	Steel and Bar
A 29 1022	ASTM	USA	Steel and Bar
A 510 1022	ASTM	USA	Wire Rod and Round Wire
A 513 Grade 1022	ASTM	USA	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](mailto: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.

**ONE STOP SOLUTION FOR METAL PARTS**