



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

## Material - ASTM A 827 1045

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

**Group - Ferrous Mild Steel Alloys**

**Sub Group - ASTM A 827 1045 Carbon Steel Compositions For Forging To Hot-Rolled And Cold-Finished Plate, Steel and Forging**

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

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

Chemical Composition			Heat Treatment	
Carbon	C %	0.430 - 0.500	As Raw or Annealing or Normalizing or Hardening and Tempering	
Manganese	Mn %	0.600 - 0.900		
Phosphorus	P %	0.030 max.		
Sulphur	S %	0.030 max.		
Silicon	Si %	0.150 - 0.400		
Iron	Fe %	Balance		
-	-	-		
-	-	-		
-	-	-		
-	-	-		
			Mechanical Properties	
			Tensile Strength in Mpa	570 - 862
			Yield Strength in Mpa	310 min.
			Elongation in %	10 min.
			Reduction of Area in %	35 - 45
			Hardness in HB	163 - 321
			Impact in Joule	-

Cross Reference Table			
Material	Standard	Country	Grade Belong to the Industry
G10450	UNS	USA	Bars, Wire Rods, Plates, Strip, Sheets and Tubing
1045	SAE	USA	Bars, Wire Rods, Plates, Strip, Sheets and Tubing
1045	AISI	USA	Steel and Bar
A 311 1045 Class A	ASTM	USA	Steel and Bar
A 311 1045 Class B	ASTM	USA	Steel and Bar
A 830 G10450	ASTM	USA	Plate and Steel
A 682 Grade 1045	ASTM	USA	Steel and Strip

**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**