

GATEWAY C-1045

Hot Rolled Plate

Gateway C-1045 Hot Rolled plate is produced using a special Calcium treatment and controlled Sulfur process. It is pre-stress relieved and can be heat-treated and welded easily. Gateway C-1020 machines 40% better than other steels with comparable carbon content. Typical applications including:

- **Sub Plates**
- **Rubber Molds**
- **Slides**
- **Trim Dies**
- **Short Run Blanking Dies**
- **Fixtures**

Typical Chemistry

Carbon	.42/.50
Manganese	.30/.60
Phosphorus	.040 max
Sulfur	.050 max

Physical Properties

Gateway C-1045 is typically used in the AS-ROLLED condition or may be Annealed or Normalized.

	Size (square inch)	Tensile Strength psi	Yield Point psi	Elongation % 2 inch	Reduction of area, %	Hardness B
Annealed:	1	83,250	52,000	33.3	48.6	169
* Heated to 1450°F, furnace-cooled 20°F per hour to 1200°F, cooled in air						
Normalized:	1	97,000	58,5000	24.0	46.5	193
* Heated to 1650°F, cooled in air						
Water Quenched:	1	119,000	85,250	21.6	58.9	239
* from 1550°F, tempered at 1000°F						
Water Quenched:	1	100,750	72,250	25.1	63.5	211
* from 1550°F, tempered at 1200°F						

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Physical Properties (continued)

It should be noted that non-alloy steel grades develop a “case-core” relationship. That is, the surface will attain a higher hardness than the center as a result of any heat treatment.

As-quenched (in water) hardness			
Size (square inches)	Surface	1/4" Depth	Center
1	HRC 55	HRC 28	HRC 25

All values above are nominal approximations and depend on specimen size and orientation. Specific applications will be assessed on an individual basis.