

# Cincinnati Tool Steel Company

Phone #: (815) 226-8800 (800) 435-0717 Fax #: (815) 226-4388

## 1020

### Hot Rolled

Hot Rolled 1020 is used for general purpose applications. This steel is a low carbon grade, having good over-all mechanical properties. It is easy to fabricate by the usual structural methods, such as mild cold and hot forming and welding.

### Typical Analysis

|                 | 3/4" and under | Over 3/4" |
|-----------------|----------------|-----------|
| Carbon          | .26            | .27       |
| Manganese       | --             | .60-.90   |
| Phosphorus Max. | .04            | .04       |
| Sulfur Max.     | .05            | .05       |

### Applications

This material is used for general purpose structural and miscellaneous non-critical applications that involve mild cold bending, mild hot forming, punching, and welding. Such applications include parts for general machinery, agricultural implements, transportation equipment, etc. It is used where seams and other surface imperfections may be tolerated.

### Mechanical Properties

The following values are average for 1" round and may be considered as representative of this grade:

| Tensile   | Yield          |            |
|-----------|----------------|------------|
| Strength  | Point          | Elongation |
| (psi)     | (psi)          | in 2"      |
| 58/80,000 | 36,000<br>Min. | 23% Min.   |

### Weldability

This material is easily welded by all welding processes, and the resultant welds and joints are of extremely high quality. The grade of welding rod used depends on welding conditions, such as thickness of section, design, service requirements, etc.

---

Data shown are typical, and should not be construed as maximum or minimum values for specification or for final design.  
Data on any particular piece of material may vary from those herein.