

# SUPREME STEEL INDUSTRIES



## AISI Type D2 Tool Steel, air quenched at 1010°C, tempered at 200°C

Categories: [Metal](#); [Ferrous Metal](#); [Carbon Steel](#); [High Carbon Steel](#); [Tool Steel](#); [Cold Work Steel](#)

Material Notes: High-carbon, High-chromium Tool Steel. Virtually non-deforming during heat treatment. High wear resistance, which increases with increasing C and V content.

Key Words: high carbon, high chromium, UNS T30402, ASTM A681, FED QQ-T-570, SAE J437, SAE J438, DIN 1.2379, B

Vendors: No vendors are listed for this material. Please [click here](#) if you are a supplier and would like information on how to add your listing to this material.

[Printer friendly version](#) [Download as PDF](#) [Download to Excel \(requires Excel and Windows\)](#)

[Export data to your CAD/FEA program](#)

Add to Folder:  My Folder 0/0

| Physical Properties | Metric | English | Comments |
|---------------------|--------|---------|----------|
|---------------------|--------|---------|----------|

|         |           |                          |  |
|---------|-----------|--------------------------|--|
| Density | 7.70 g/cc | 0.278 lb/in <sup>3</sup> |  |
|---------|-----------|--------------------------|--|

| Mechanical Properties | Metric | English | Comments |
|-----------------------|--------|---------|----------|
|-----------------------|--------|---------|----------|

|                       |        |            |                                     |
|-----------------------|--------|------------|-------------------------------------|
| Hardness, Knoop       | 769    | 769        | Converted from Rockwell C hardness. |
| Hardness, Rockwell C  | 62     | 62         |                                     |
| Hardness, Vickers     | 748    | 748        |                                     |
| Izod Impact Unnotched | 77.0 J | 56.8 ft-lb |                                     |

| Thermal Properties | Metric | English | Comments |
|--------------------|--------|---------|----------|
|--------------------|--------|---------|----------|

|             |                             |                            |  |
|-------------|-----------------------------|----------------------------|--|
| CTE, linear | 10.5 µm/m-°C                | 5.83 µin/in-°F             |  |
|             | @Temperature 20.0 - 100 °C  | @Temperature 68.0 - 212 °F |  |
|             | 11.8 µm/m-°C                | 6.56 µin/in-°F             |  |
|             | @Temperature 0.000 - 300 °C | @Temperature 32.0 - 572 °F |  |
|             | 12.5 µm/m-°C                | 6.94 µin/in-°F             |  |
|             | @Temperature 0.000 - 500 °C | @Temperature 32.0 - 932 °F |  |

| Processing Properties | Metric | English | Comments |
|-----------------------|--------|---------|----------|
|-----------------------|--------|---------|----------|

|                        |               |                |                       |
|------------------------|---------------|----------------|-----------------------|
| Processing Temperature | 205 - 540 °C  | 401 - 1000 °F  | Tempering Temperature |
|                        | 980 - 1025 °C | 1800 - 1877 °F | Hardening Temperature |
| Annealing Temperature  | 870 - 900 °C  | 1600 - 1650 °F |                       |

| Component Elements Properties | Metric | English | Comments |
|-------------------------------|--------|---------|----------|
|-------------------------------|--------|---------|----------|

|                |              |              |  |
|----------------|--------------|--------------|--|
| Carbon, C      | 1.4 - 1.6 %  | 1.4 - 1.6 %  |  |
| Chromium, Cr   | 11 - 13 %    | 11 - 13 %    |  |
| Cobalt, Co     | <= 1.0 %     | <= 1.0 %     |  |
| Manganese, Mn  | <= 0.60 %    | <= 0.60 %    |  |
| Molybdenum, Mo | 0.70 - 1.2 % | 0.70 - 1.2 % |  |
| Phosphorous, P | <= 0.030 %   | <= 0.030 %   |  |
| Silicon, Si    | <= 0.60 %    | <= 0.60 %    |  |
| Sulfur, S      | <= 0.030 %   | <= 0.030 %   |  |
| Vanadium, V    | <= 1.1 %     | <= 1.1 %     |  |

**H.O.:-** 414/416, Maulana Azad Rd, Mumbai - 400 004  
 +91 22 - 2385 0143, 2387 2168, 6639 4243, 6636 3466  
 © +91 98213 25977 amit.supremesteel@gmail.com

**Branch:-** 15/1 Dwarkesh Industrial Estate,  
 Gulwe Vasti, Bhosari, Pune - 411 026.  
 + 91 20-2712 4335 / 2712 1060 © +91 94215 41189  
 supremesteelind@hotmail.co.in