

## EDRO #5 H13-Hot Work Tool Steel

Category : Metal , Ferrous Metal , Chrome-moly Steel , Tool Steel , Hot Work Steel

### Material Notes:

EDRO #5™ H13 is a chromium-molybdenum-vanadium-alloyed steel characterized by: good resistance to thermal shock and thermal fatigue, good high-temperature strength, good toughness and ductility, good machinability, good polishability, good through-hardening properties, and good size stability during hardening. Information provided by EDRO

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_EDRO-5-H13-Hot-Work-Tool-Steel.php](http://www.lookpolymers.com/polymer_EDRO-5-H13-Hot-Work-Tool-Steel.php)

| Mechanical Properties      | Metric                  | English                  | Comments                           |
|----------------------------|-------------------------|--------------------------|------------------------------------|
| Hardness, Brinell          | 185                     | 185                      | Delivery condition (soft annealed) |
| Hardness, Vickers          | 950 - 1000              | 950 - 1000               | Tufftride process, 2 hr            |
|                            | @Treatment Temp. 570 °C | @Treatment Temp. 1060 °F |                                    |
|                            | 1000 - 1250             | 1000 - 1250              | Nitriding in ammonia gas           |
|                            | @Treatment Temp. 525 °C | @Treatment Temp. 977 °F  |                                    |
| Tensile Strength, Ultimate | 1420 MPa                | 206000 psi               | 45 HRC                             |
|                            | @Temperature 20.0 °C    | @Temperature 68.0 °F     |                                    |
|                            | 1810 MPa                | 263000 psi               | 52 HRC                             |
|                            | @Temperature 20.0 °C    | @Temperature 68.0 °F     |                                    |
| Tensile Strength, Yield    | 1280 MPa                | 185000 psi               | 45 HRC                             |
|                            | @Temperature 20.0 °C    | @Temperature 68.0 °F     |                                    |
|                            | 1520 MPa                | 220000 psi               | 52 HRC                             |
|                            | @Temperature 20.0 °C    | @Temperature 68.0 °F     |                                    |
| Elongation at Yield        | 10 %                    | 10 %                     | in 2", 52 HRC                      |
|                            | @Temperature 20.0 °C    | @Temperature 68.0 °F     |                                    |
|                            | 12 %                    | 12 %                     | in 2", 45 HRC                      |
|                            | @Temperature 20.0 °C    | @Temperature 68.0 °F     |                                    |
| Reduction of Area          | 45 %                    | 45 %                     | 52 HRC                             |
|                            | @Temperature 20.0 °C    | @Temperature 68.0 °F     |                                    |
|                            | 55 %                    | 55 %                     | 45 HRC                             |
|                            | @Temperature 20.0 °C    | @Temperature 68.0 °F     |                                    |

| Component Elements Properties | Metric | English | Comments   |
|-------------------------------|--------|---------|------------|
| Carbon, C                     | 0.40 % | 0.40 %  |            |
| Chromium, Cr                  | 5.3 %  | 5.3 %   |            |
| Iron, Fe                      | 90.5 % | 90.5 %  | As Balance |
| Manganese, Mn                 | 0.40 % | 0.40 %  |            |
| Molybdenum, Mo                | 1.4 %  | 1.4 %   |            |
| Silicon, Si                   | 1.0 %  | 1.0 %   |            |
| Vanadium, V                   | 1.0 %  | 1.0 %   |            |

| Descriptive Properties | Value | Comments |
|------------------------|-------|----------|
| Color Code             | Green |          |

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