

DME NO.7

AISI 400 Modified Stainless



DME Steel No.7 is an AISI 400 modified stainless steel that has stood the test of time across a variety of uses worldwide. Trusted for decades to give you the quality, durability, and corrosion resistance you need. This stainless provides the excellent machinability, ductility, flatness and weldability you need for a vast array of molding and mold-based applications. Available in rotary ground (**RGM**) or finished ground (**FG**) to meet your needs when superior performance is required.

When you need the best steel, DME is ready to support your steel needs – today!

STEEL CHARACTERISTICS

PHYSICAL PROPERTIES (AT 68°F)

| Temperature | | 68°F (20°C) | 390°F (200°C) |
|----------------------------------|--|----------------------------------|---|
| Density | - lbs/cu.in. - fg/m ³ | 0.264 7,800 | 0.282 7,750 |
| Coefficient of Thermal Expansion | - per °F from 68° - per °C from 20° | — — | 6.1 x 10 ⁶ 11.0 x 10 ⁶ |
| Thermal Conductivity | - BTU in/ft ² hr °F - J/m s °C | 202 29.0 | 205 29.5 |
| Modulus of Elasticity | - psi - N/mm ² | 29.0 x 10 ⁶ 20,000 | 27.6 x 10 ⁶ 19,000 |

MECHANICAL PROPERTIES - DME #7

Samples: round bar 3" (76mm) diameter. Hardness: 321HB

Tensile Strength - Approximate values

| Testing temperature | 68°F (20°C) | 390°F (200°C) |
|---------------------|-------------|---------------|
| Tensile strength | | |
| psi | 155,000 | 152,000 |
| N/mm ² | 1069 | 1048 |
| Yield strength | | |
| psi | 129,000 | 126,000 |
| N/mm ² | 890 | 869 |
| Reduction of area | 34% | 34% |
| Elongation in 2" | 12% | 12% |

Impact Strength - Approximate values

| | 68°F (20°C) | 390°F (200°C) |
|---------|-------------|---------------|
| Joules | 22 | 36 |
| Ft-lbs. | 16 | 26 |

TOLERANCES

All dimensions are in inches.

| | RGM | FG |
|---|------------------------------------|---------------------------------|
| Length and Width | -0.000 / +0.005 | -0.000 / +0.005 |
| Thickness 88 - 1518 - all other standard sizes | +0.015 / +0.020 +0.023 / +0.031 | -0.001 / +0.001 — |
| Flatness | 0.002 / ft | 0.0007 / ft |
| Parallelism | 0.003 | 0.0005 |
| Chamfer | 0.095 x 45°TYP / 0.125 x 45° | 0.060 x 45°TYP / 0.100 x 45° |

See Page 2 for Machining Characteristics.

Applications

Modified AISI 400 or equivalent series stainless steel for holder block applications. It is supplied pre-hardened to 32-36 HRC (302-340 Bhn) and generally no further heat treatment is required. This stainless steel offers corrosion-resistance and exceptional machinability. Ideal for humid environments, corrosive plastics, clean room or 100% stainless applications. Various application for this versatile steel formulation include but are not limited to:

- Injection Molds
- Compression Molds
- Die Casting Dies
- Structural Or Engineered Applications
- Other applications.
- Extrusion Molds
- Blow Molds

PLATES FOR THE ENTIRE MARKET

DME Steel is readily available for **all markets** – more than just mold industry applications. Our mold steels machinability, uniformity, and consistency make it ideal for a wide variety of uses. Our exclusive supply from the best steel mills allow DME to maintain readily accessible quality stock.. This availability means DME can deliver product to you quicker and easier.

All DME steel is available in standard and custom widths, lengths and thicknesses, in RGM or Finish Ground.



DME NO. 7 STEEL

Machining Specifications

| MILLING | | |
|--|----------------------|-----------------------|
| Carbide tool and high speed tools | Rough Milling | Finish Milling |
| Depth of cut (t) in | 0.08 - 0.20 | ≤ 0.08 |
| mm | 2.00 - 5.00 | ≤ 2.00 |
| Carbide Tools | | |
| ISO machining group | P20 - P40 | P10 - P20 |
| Cutting speed (v) f.p.m. | 430 - 620 | 620 - 820 |
| mm/min. | 130 - 190 | 190 - 250 |
| High Speed Steel Tools | | |
| Cutting speed (v) f.p.m. | — | 35 - 40 |
| m/min. | — | 115 - 130 |

| DRILLING | | | | | |
|----------------|------------|---------------|----------|-------------|---------------|
| Drill Diameter | | Cutting Speed | | Feed (f) | |
| mm | inch | m/min | f.p.m | mm/r | l.p.r |
| – 5 | – 3/16 | 17–19" | 56 – 62" | 0.05 – 0.10 | 0.002 - 0.004 |
| 5 – 10 | 3/16 – 3/8 | 17–19" | 56 – 62" | 0.10 – 0.20 | 0.004 - 0.008 |
| 10 – 15 | 3/8 – 5/8 | 17–19" | 56 – 62" | 0.20 – 0.25 | 0.008 - 0.010 |
| 15 – 20 | 5/8 – 3/4 | 17–19" | 56 – 62" | 0.25 – 0.30 | 0.010 - 0.014 |

* For coated HSS drill $vc = 29-31$ m/min (95–102 f.p.m.)
 RPM = (3.82 x SFM) / Tool Dia. Feed Rate = RPM x IPR

Plate Services Available

- Saw Cut
- RGM - Rotary Ground
- FG - Finish Ground
- Lift Holes
- Pry Bar Slots
- Gun Drilling
- Drilling & Tapping
- Milling/Boring
- Rough or Finish Machined
- Radius Edges
- And More

Key Benefits

- Excellent Machinability
- High compressive strength (resistant to indentation)
- Reduced mold maintenance costs
- Dimensionally stable
- Lower mold production cost due to less cutting tool wear and increased cutting speeds.
- Corrosion resistance

Contact Milacron - DME

For more information or delivery options contact at:
 800-626-6653 (U.S.) • 800-387-6600 (Canada) • 248-398-6000 (Worldwide).
www.dme.net
<https://store.milacron.com>

Keyword search: **STEEL PLATE**



| DME No. 7 PLATE SIZES & AVAILABILITY | | | | | | | |
|--------------------------------------|--------|--------|-----------------|-------|-------|-------|-------|
| Plate Size | | | Plate Thickness | | | | |
| Measurement in inches. | | | 7/8 | 1 1/8 | 1 1/2 | 2 1/8 | 2 1/2 |
| DME # | W | L | 7 | 13 | 17 | 23 | 27 |
| 88 | 7.875 | 7.875 | ◆ | ◆ | ◆ | ◆ | |
| 812 | 7.875 | 11.875 | ◆ | ◆ | ◆ | ◆ | ◆ |
| 108 | 9.875 | 8 | ◆ | ◆ | ◆ | ◆ | |
| 1012 | 9.875 | 11.875 | ◆ | ◆ | ◆ | ◆ | ◆ |
| 1016 | 9.875 | 16 | ◆ | ◆ | ◆ | | |
| 1020 | 9.875 | 20 | | | | | |
| 1112 | 10.875 | 12 | ◆ | ◆ | | | |
| 1114 | 10.875 | 14 | ◆ | ◆ | ◆ | ◆ | |
| 1118 | 10.875 | 18 | ◆ | ◆ | ◆ | ◆ | |
| 1123 | 10.875 | 23.5 | | | | | |
| 1212 | 11.875 | 12 | | | | | |
| 1215 | 11.875 | 15 | ◆ | ◆ | ◆ | ◆ | ◆ |
| 1220 | 11.875 | 20 | | | | | |
| 1223 | 11.875 | 23.5 | | | | | |
| 1315 | 13.375 | 15 | ◆ | ◆ | ◆ | ◆ | |
| 1318 | 13.375 | 18 | ◆ | ◆ | ◆ | ◆ | ◆ |
| 1321 | 13.375 | 20.75 | | | | | |
| 1323 | 13.375 | 23.5 | | | | | |
| 1326 | 13.375 | 26 | | | | | |
| 1329 | 13.375 | 29.5 | | | | | |
| 1518 | 14.875 | 17.875 | ◆ | ◆ | ◆ | | |
| 1524 | 14.875 | 23.75 | | ◆ | | ◆ | |
| 1529 | 14.875 | 29.5 | | | | | |
| 1616 | 15.875 | 16 | | | | | |
| 1620 | 15.875 | 20 | | ◆ | | ◆ | |
| 1623 | 15.875 | 23.5 | | | | | |
| 1626 | 15.875 | 26 | | ◆ | | ◆ | |
| 1629 | 15.875 | 29.5 | | | | | |
| 1635 | 15.875 | 35.5 | | | | | |
| 1724 | 16.5 | 23.5 | | | | | |
| 1729 | 16.5 | 29.5 | | | | | |
| 1818 | 17.875 | 18 | ◆ | ◆ | ◆ | ◆ | |
| 1820 | 17.875 | 20 | ◆ | ◆ | ◆ | ◆ | |
| 1823 | 17.875 | 23.5 | ◆ | ◆ | ◆ | ◆ | |
| 1826 | 17.875 | 26 | ◆ | ◆ | ◆ | | |
| 1829 | 17.875 | 29.5 | ◆ | | | | |
| 1835 | 17.875 | 35.5 | ◆ | | | | |
| 1924 | 19.5 | 23.75 | ◆ | ◆ | | | ◆ |
| 1929 | 19.5 | 29.5 | ◆ | | | | |
| 1935 | 19.5 | 35.5 | ◆ | | | | |
| 2424 | 23.75 | 23.75 | ◆ | ◆ | | | |
| 2429 | 23.75 | 29.5 | ◆ | ◆ | ◆ | | |
| 2435 | 23.75 | 35.5 | ◆ | ◆ | ◆ | | |

Over 215 standard plate sizes.

- ◆ Standard RGM or Finished Ground Plate (shown above) available off-the-shelf.
- Standard RGM or Finished Ground Plate (shown above) available for quick delivery.

Custom sizes available upon request. Call DME for more information.