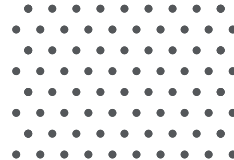


DME STEEL PLATES

DME-NO.3 P20 (modified)



DME Steel No.3 was formulated for DME in the early 1960's and has become the industry standard P20 Steel. Trust DME to give you the quality level you need for a vast array of molding and mold-based applications. Available in rotary ground (RGM) or finished ground (FG); this pre-heat treated and tempered mold steel comes off-the-shelf to you when you need it.

DME - ready to support your steel needs today!

STEEL CHARACTERISTICS

GENERAL

C 0.310 | Si 0.400 | Mn 0.400 | Cr 0.400 | Mo 0.400 | S 0.400

PHYSICAL PROPERTIES (AT 68°F)

Temperature	68°F (20°C)	390°F (200°C)	750°F (400°C)
Density - lbs/cu.in. - fg/m ³	0.282 7,800	0.280 7,750	0.277 7,700
Coefficient of Thermal Expansion - per °F from 68° - per °C from 20°	— —	7.0 x 10 ⁶ 12.7 x 10 ⁶	7.5 x 10 ⁶ 13.6 x 10 ⁶
Thermal Conductivity - BTU in/ft ² hr °F - J/m s °C	202 29.0	205 29.5	216 31.0
Modulus of Elasticity - psi - N/mm ²	29.7 x 10 ⁶ 205 000	29.0 x 10 ⁶ 200 000	26.8 x 10 ⁶ 185 000
Specific Heat - Btu/lbF - J/kg °C	0.110 460	— —	— —

MECHANICAL PROPERTIES - DME #3

Samples: round bar 1" (25mm) diameter. Hardness: 310HB

Tensile Strength - Approximate values

Testing temperature	68°F (20°C)	390°F (200°C)	750°F (400°C)
Tensile strength psi N/mm ²	146,000 1010	138,000 950	115,000 790
Yield strength psi N/mm ²	116,000 800	109,000 750	91,000 630
Reduction of area	60%	63%	65%
Elongation in 2"	20%	22%	25%

Impact Strength - Approximate values

Joules	50	55	65
Ft-lbs.	37	41	48

Applications

DME No.3 Steel is a P-20 (modified) type cavity steel, pre-heat treated to 28-35 HRC (277-332 Bhn). It provides high hardness, exceptional machinability and polishability for both molds and die cast dies. Available in both RGM and Finish Ground. Exceptionally clean and uniform it is comparable to DIN 1.2311 (G40CrMnMo7). 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 such as supports, backers, bolsters, die holders, rails, shafts, wear strips and more.
- Extrusion Molds
- Blow Molds

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.

PLATES FOR THE ENTIRE MARKET

DME Steel is readily available for **all markets** – more than just mold industry applications. Our 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. 3 STEEL

Machining Specifications

MILLING		
Carbide tool and high speed tools	Rough Milling	Finish Milling
Depth of cut (t) in	min. 0.08	max 0.08
mm	min 2.0	max 2.0
Carbide Tools		
ISO machining group	P30 - P40	P10 - P20
Cutting speed (v) f.p.m.	180 - 280	230 - 330
mm/min.	55 - 85	75 - 95
High Speed Steel Tools		
Cutting speed (v) f.p.m.	30 - 70	50 - 100
m/min.	10 - 20	15 - 30

DRILLING				
Diameter	Depth of Hole			
	2xD	6xD	8xD	10xD
in/mm	rpm/feed (rev. mm/in)			
0.157/4	1430/.003 .080	1435/.003 .060	1090/.002 .050	990/.002 .040
0.315/8	900/.006 .140	750/.004 .110	680/.003 .080	620/.003 .070
0.630/16	475/.010 .250	395/.190 .080	365/.006 .150	330/.005 .120
0.984/25	310/.012 .290	260/.009 .220	235/.007 .170	215/.006 .150

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

- Polishable
- Additional heat treat not required
- No heat treating risks or lost time
- Machinability - lower tooling costs & consistent tool cutting
- Plates can be surfaced treated
- Chamfered edges standard

Contact Milacron - DME

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

Keyword search: **STEEL PLATE**



© 2017 Milacron LLC. All Rights Reserved.
www.dme.net

SP3-rev9.6.17

Standard Available Sizes

NOMINAL SIZE	WIDTH (IN)	LENGTH (IN)
67	6.000	7.000
69	6.000	9.000
611	6.000	10.875
88	7.875	7.875
812	7.875	11.875
99	9.000	9.000
912	9.000	11.875
108	9.875	8.000
1012	9.875	11.875
1016	9.875	16.000
1020	9.875	20.000
1024	9.875	23.750
1112	10.875	12.000
1114	10.875	14.000
1118	10.875	18.000
1123	10.875	23.500
1212	11.875	12.000
1215	11.875	15.000
1217	11.875	17.500
1220	11.875	20.000
1223	11.875	23.500
1229	11.875	29.500
1315	13.375	15.000
1318	13.375	18.000
1321	13.375	20.750
1323	13.375	23.500
1326	13.375	26.000
1329	13.375	29.500
1518	14.875	17.875
1524	14.875	23.750
1529	14.875	29.500
1616	15.875	16.000
1620	15.875	20.000
1623	15.875	23.500
1626	15.875	26.000
1629	15.875	29.500
1635	15.875	35.500
1724	16.500	23.750
1729	16.500	29.500
1818	17.875	18.000
1820	17.875	20.000
1823	17.875	23.500
1826	17.875	26.000
1829	17.875	29.500
1835	17.875	35.500
1924	19.500	23.750
1929	19.500	29.500
1935	19.500	35.500
2424	23.750	23.750
2429	23.750	29.500
2435	23.750	35.500

Over 446 standard plate sizes.

- Standard plate thickness for immediate delivery are: 7/8", 1-3/8", 1-7/8", 2-3/8", 2-7/8", 3-3/8", 3-7/8". (4-7/8" and 5-7/8" Available upon request.)
- **Additional and custom sizes available upon request.**
- Nominal sizes above shown in grey are off-the shelf and ready for delivery.