DME

FROM PELLET TO PART
YOUR PARTNER
FOR PRODUCTIVITY
AND SUSTAINABILITY

DME NO. 1 STEEL

A36 MILD CARBON & 1030 MEDIUM CARBON

DME No.1 steel is a medium carbon steel that is machinable, has good weldability, good tensile strength. This quality steel is a great value for cost effective mold steel alternatives. Available in saw cut plate (**SCP**), rotary ground cut (**RGC**), rotary ground (**RGM**) or finished ground (**FG**), and comes off-the-shelf to you when you need it.

DME - ready to support your steel needs today!

STEEL CHARACTERISTICS

PHYSICAL PROPERTIES (AT 68°F)			
Temperature	68°F (20°C)	390°F (200°C)	750°F (400°C)
Density - lbs/cu.in.	0.282	0.280	0.277
Density - fg/m³	7,800	7,750	7,700
Coefficient of Thermal Expansion			
- per °F from 68°	—	7.0×10^6	7.5×10^6
- per °C from 20°	—	12.7×10^6	13.6×10^6
Thermal Conductivity			
- BTU in/ft² hr °F	202	205	216
- J/m s °C	29.0	29.5	31.0
Modulus of Elasticity			
- psi	29.7×10^6	29.0×10^6	26.8×10^6
- N/mm²	205 000	200 000	185 000
Specific Heat - Btu/lbF	0.110	—	—
- J/kg °C	460	—	—

MECHANICAL PROPERTIES - DME #1 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	146,000	138,000	115,000
N/mm²	1010	950	790
Yield strength			
psi	116,000	109,000	91,000
N/mm²	800	750	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

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 SCP, RGC, RGM or Finish Ground.

Applications

DME No.1 Steel is a quality steel with approximately 25% greater tensile strength than typical low-carbon warehouse steel. It machines easily and is available in SCP, RGC, RGM and Finish Ground. Various applications for this steel formulation include but are not limited to:

- Injection Molds
- Extrusion Molds
- Blow Molds
- Other applications such as clamp supports, backers, bolsters, rails, and more.

TOLERANCES All dimensions are in inches.		
	RGM	**FG**
Length and Width	-0.000 / +0.005	-0.000 / +0.005
Thickness 88 - 1518	+0.015 / +0.020	-0.001 / +0.001
- all other standard sizes	+0.023 / +0.031	—
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.

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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.	230 - 330	295-380
mm/min.	70 - 100	90 - 115
	High Speed Steel Tools	
Cutting speed (v) f.p.m	50 - 100	65 - 115
m/min.	15 - 30	20 - 35

DRILLING				
	Depth of Hole			
Diameter	**2xD**	**6xD**	**8xD**	**10xD**
in/mm	rpm/feed (rev. mm/in)			
0.16/4	1720/ .003 .080	1435/ .003 .080	1310/ .002 .050	1190/ .002 .040
0.32/8	1080/ .006 .140	1435/ .004 .110	1310/ .003 .080	1190/ .003 .070
0.64/16	570/ .019 .250	475/ .003 .080	435/ .002 .050	395/ .002 .040
1.0/25	370/ .012 .290	310/ .009 .220	285/ .007 .170	260/ .006 .150

Plate Services Available

- SCP - Saw Cut Plate
- RGC - Rotary Ground 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

- Cost effective
- Weldable
- Good strength
- Easy to machine
- Heat treatable to hardened surface
- Chamfered edges standard

DME No. 1 PLATE SIZES

Plate Size			Plate Thickness								
Measurement in inches.			7/8	1 3/8	1 7/8	2 3/8	2 7/8	3 3/8	3 7/8	4 7/8	5 7/8
DME #	W	L	7	13	17	23	27	33	37	47	57
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	◆	◆	◆						

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