

V-MAX

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Special points of interest:

V-Max, a chemically-enhanced version of 1330, is a simple but effective general purpose bar.

V-Max combines strength and versatility with an economical price, making it an exceptional value for many general maintenance needs.

V-Max outshines the generic competition in each of the main mechanical properties.

V-Max comes in an array of diameter sizes, running 10-12 foot and 20-24 foot random lengths. Cut-to-size available upon inquiry.

TG & P V-MAX: THE UNIVERSAL BAR

Our goal with V-Max was to develop a universal bar stock that would provide the most useful properties at the most economical price – an effective but simple general purpose material that would stand up under the most adverse conditions. V-Max was developed from the chemical model of a 1330 steel, which was subsequently micro-alloyed using the most advanced processing.



THE BENEFITS OF V-MAX

Dollar for dollar V-Max may be the best general purpose bar stock value in North America.

V-Max is a new bar product developed by a new processing technique. It is correctly considered to be a universal shafting material for both maintenance and manufacturing needs.

V-Max is easy to machine and easy to weld. Because it is strong, versatile and economical you will find yourself using V-Max

for a good portion of your general maintenance needs.

V-Max will save you time, energy, duplicated inventories and headaches. If you will take a few minutes to review the following information regarding the properties of V-Max, we believe V-Max will become an indispensable item in your tool room, machine shop and production inventories.

TYPICAL V-MAX APPLICATIONS

V-Max can be used for a variety of shaft applications in the following industries:

- Industrial machine shops
- Machine tool manufacturers
- Heavy equipment and machinery manufacturers
- Fan, pump and compressor manufacturers
- Maintenance departments
- Tool rooms
- Cement plants, steel mills, mines, pulp and paper
- Power plants, refineries, sand and gravel and aggregate processors, grain and fertilizer plants, etc.



“V-Max bars come in standard 10-12 ft and 20-24 random lengths. We will cut to size upon inquiry.”

V-MAX STOCKING SIZES

diameter size (inches)		
+1/4	+5/8	+1/4
+5/16	+11/16	+7/16
+3/8	+3/4	+1/2
+7/16	+7/8	+3/4
+1/2	15/16	15/16
+9/16	2	4
+5/8	+1/8	+1/4
+3/4	+3/16	+7/16
+7/8	+1/4	+1/2
15/16	+5/16	+3/4
1	+3/8	15/16
+1/8	+7/16	5
+3/16	+1/2	+1/2
+1/4	+11/16	6
+5/16	+3/4	+1/2
+3/8	15/16	7
+7/16	3	+1/2
+1/2	+3/16	8

*LARGER SIZES AVAILABLE UPON INQUIRY

V-MAX OUTPERFORMS THE COMPETITION

GRADE	TYPE	PERCENT MACHINABILITY 1212=100%	WELDABILITY	DESCRIPTION
1018 1020	Low Carbon CD or TG&P	78	GOOD	General purpose, low strength, gummy or mushy to machine, dull finish, doesn't thread well, good case hardening
1045	Medium Carbon CD or TG&P	57	POOR	Higher strength than 1018 but higher carbon makes welding difficult
1144	Medium Carbon CD or TG&P	76	POOR	Resulpherized, free machining, difficult to weld
Stress-Proof (1144)	Medium Carbon CD or TG&P	83	POOR	Good machinability (a modified 1144) with higher strength
V-Max	Lower Carbon Micro-Alloy TG&P	80	GOOD	Easy to machine*, holds bright close tolerance finish, threads well, excellent case hardening

*MACHINING: Machine as a low carbon steel. Adjust settings as you become more familiar with this product.

Grade	C	Mn	P	S	Si	V	Cr	Tens.	Elong.	Red in Area	Impact (ft/lb)
1018 1020	0.2 0.2	0.6 0.9	0.04	0.05				65K	16	40	85
1045	0.4 0.5	0.6 0.9	0.04	0.05				90K	11	30	40
1144	0.4 0.5	1.35 1.65	0.04	0.24 0.33				100K	10	30	30
Stress-Proof (1144)	0.4 0.5	1.35 1.65	0.04	0.24 0.33	0.15 0.3			130K	12	34	45
V-Max	0.3	1.5	0.02	0.035	0.3	0.2	CR .15-25 MO .03-.10	120K	17 Min	40-50	50

If your company utilizes any of these generic brand steel bars, consider replacing them with V-Max. The improved chemistry that enhances the steel's properties and thereby increases the wear life of the bar will save you money in the long run. Between the savings in both replacement costs and downtime, V-Max will be a valuable addition to your business.

V-MAX CHEMISTRY

C	Mn	P	S	Si	Ni	Cr	Mo	Al	V	Cu
.30	1.5	.015	.030	.25	.05	.20	.075	.15	.20	.10

*typical percentages derived from test reports

“Between the savings in both replacement costs and downtime, V-Max will be a valuable addition to your business.”

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Specialty Steels for Industry

If you are looking for a specialty steel supplier that has the quality and the experience to fulfill your unique material needs, then look no further. Merging in 1986 from two of the leading alloy steel companies in the U.S., Baldwin International has become the recognized leader in finding answers for your maintenance problems. No other company can pro-



vide the unique materials, generations of experience and the on-site assistance that we provide daily to our customers.

For almost 50 years, Baldwin International has been developing unique materials that provide longer life and less down time in maintenance applications of shafting, wear liners, and steel fabrications. Unlike steel suppliers that provide a whole gamut of "generic" steels, we have "enhanced" materials, engineered for specific needs, and the wisdom to guide you in your selection.

Please check out some of our products and the related information. And please contact us for any further questions that you may have. We would be happy to have one of our experienced representatives at your

MACHINING INFORMATION FOR

Case Hardening

Responds well to flame, induction, Carburizing, or Nitriding methods of case hardening. Typical surface hardness by flame or induction is 50RC.

Note: V-Max is furnished at a hardness considered to be optimum for most general purpose applications (approx. 230 BHN). Although subsequent hardening is easily achieved, most applications will not require it. Subsequent hardening will alter physical properties and surface finish. Should your particular application require higher specific properties or should you need something other than a general purpose grade of shafting material, please inquire with your Baldwin representative and/or review other Baldwin bar products.

Heat Treatment

Hardening	1725°F
Annealing	1400-1450°F
Tempering	1600°F
32-34 RC	900°F
35-40 RC	700°F

Quench in oil (130-160°F) or warm water.

Hardness results will vary with size and actual ladle chemistry.

