



VANGUARD STEEL LTD.

PRODUCT MANUAL

ALLOWANCE FOR MACHINING BARS

HOT ROLLED BARS

WHEN PURCHASING BARS THAT ARE TO BE MACHINED, IT IS ADVISABLE TO MAKE ADEQUATE ALLOWANCES TO REMOVE SURFACE IMPERFECTIONS AND SPECIFY HOT ROLLED SIZES ACCORDINGLY.

THESE ALLOWANCES REQUIRE CONSIDERATION OF MILL MANUFACTURING PRACTICES, THE LENGTH AND SIZE OF BAR, STRAIGHTNESS, SIZE TOLERANCE, OUT OF ROUND TOLERANCE.

IN ORDER TO MINIMIZE OR ELIMINATE THE INCIDENT OF SURFACE DEFECTS ON MACHINED PARTS, AND IN ORDER TO MINIMIZE THERMAL CRACKING FROM HEAT TREATMENT, ADEQUATE ALLOWANCE SHOULD PERMIT STOCK REMOVAL FROM THE SURFACE OF NOT LESS THAN THE AMOUNTS SHOWN IN THE FOLLOWING TABLE.

DIAMETER IN INCHES			MINIMUM MACHINING ALLOWANCE PER SIDE. (INCHES).
UP TO	5/8"	INCL.	0.016
OVER	5/8" TO 7/8"	INCL.	0.021
OVER	7/8" TO 1"	INCL.	0.023
OVER	1" TO 1-1/8"	INCL.	0.025
OVER	1-1/8" TO 1-1/4"	INCL.	0.028
OVER	1-1/4" TO 1-3/8"	INCL.	0.030
OVER	1-3/8" TO 1-1/2"	INCL.	0.033
OVER	1-1/2" TO 2"	INCL.	0.042
OVER	2" TO 2-1/2"	INCL.	0.052
OVER	2-1/2" TO 3-1/2"	INCL.	0.072
OVER	3-1/2" TO 4-1/2"	INCL.	0.090
OVER	4-1/2" TO 5-1/2"	INCL.	0.110
OVER	5-1/2" TO 6-1/2"	INCL.	0.125
OVER	6-1/2" TO 8-1/4"	INCL.	0.155
OVER	8-1/4" TO 10"	INCL.	0.203

ROUGH TURNED BARS

OVER	10" TO 14"	INCL.	1/8"
OVER	14"		3/16"

REMOVAL FOR AIRCRAFT QUALITY ALLOYS SUBJECT TO MAGNETIC PARTICLE INSPECTION WILL REQUIRE APPROX. TWICE THE ABOVE MACHINING ALLOWANCE IN ACCORDANCE WITH **AISI** STANDARDS.