



VANGUARD STEEL LTD.

PRODUCT MANUAL

HOT ROLLED CARBON STEELS - 1020

AISI/SAE 1020

ASTM A576 UNS G 10200

TYPICAL ANALYSIS

C.	Mn.	P.	S.
.17/.24	.25/.60	.04 MAX.	.05 MAX.

A GENERAL PURPOSE MILD STEEL, LOW-CARBON MACHINERY STEEL, HAVING GOOD OVER-ALL MECHANICAL PROPERTIES. EASILY MACHINABLE AND WELDABLE. SUITABLE FOR HEAT TREATMENT AND IDEAL FOR CARBURIZING

TYPICAL APPLICATIONS

GENERAL PURPOSE STRUCTURAL AND MISCELLANEOUS NON-CRITICAL APPLICATIONS, GENERAL ENGINEERING PARTS, SHAFTS, AGRICULTURAL IMPLEMENTS, HUBS, ETC.

MECHANICAL PROPERTIES - AS SUPPLIED

THE FOLLOWING ARE AVERAGE VALUES AND MAY BE CONSIDERED AS REPRESENTATIVE:

TENSILE STRENGTH, PSI	58,000	
YIELD STRENGTH, PSI	36,000	MIN.
ELONGATION, %	36	
REDUCTION IN AREA, %	59	
BRINELL HARDNESS	120	

MACHINABILITY

1020 IN THE AS SUPPLIED CONDITION HAS A MACHINABILITY RATING OF 72%,. BASED ON AISI 1212 AS 100%.
AVERAGE SURFACE CUTTING SPEED IS 120 FEET PER MINUTE.

WELDABILITY

THIS GRADE IS EASILY WELDED BY ALL WELDING PROCESSES.
THE RESULTANT WELDS AND JOINTS ARE OF EXTREMELY HIGH QUALITY.
WELDING ROD TO BE USED DEPENDS UPON THE THICKNESS OF SECTION, DESIGN, SERVICE REQUIREMENTS, ETC.