



# VANGUARD STEEL LTD.

## PRODUCT MANUAL

### COLD FINISHED CARBON STEELS - 12L 14

AISI/SAE 12L 14

UNS G 12144

#### TYPICAL ANALYSIS

C.	Mn.	P.	S.
.15 MAX.	.85/1.15	.04/.09	.26/.35

C 12L 14 IS ESSENTIALLY RESULPHURIZED AND REPHOSPHORIZED SCREW MACHINE STOCK TO WHICH LEAD HAS BEEN ADDED.

#### TYPICAL APPLICATIONS

USED TO MAXIMUM ADVANTAGE FOR PARTS WHERE CONSIDERABLE MACHINING IS REQUIRED SUCH AS BUSHINGS, INSERTS, COUPLINGS, AND HYDRAULIC HOSE FITTINGS. WITH GOOD DUCTILITY, THESE GRADES ARE SUITABLE FOR PARTS INVOLVING BENDING, CRIMPING, OR RIVETING.

#### MECHANICAL PROPERTIES

THE FOLLOWING ARE AVERAGE VALUES FOR 1" ROUND AND MAY BE CONSIDERED AS REPRESENTATIVE:

TENSILE STRENGTH, PSI	87,500
YIELD POINT, PSI.	75,000
ELONGATION, % IN 2"	15
REDUCTION IN AREA, %	50
BRINELL HARDNESS	163/179

#### MACHINABILITY

12L14 HAS A MACHINABILITY RATING OF 198% OF AISI B-1112. AVERAGE SURFACE CUTTING SPEED IS 325 FEET PER MINUTE.

#### WELDABILITY

DUE TO HIGH SULPHUR CONTENT, THESE GRADES ARE NOT CONSIDERED AS WELDABLE

#### HARDENING

ALTHOUGH THESE GRADES WILL RESPOND TO CONVENTIONAL TREATMENTS, THEY ARE NOT CONSIDERED CASE-HARDENING STEELS. BETTER RESULTS CAN BE OBTAINED FROM 1117