

Description

Double poured high speed tool steel produced by the horizontal spincasting process.

Specific customer mill conditions will result in a customized set of metallurgical criteria in order to strive for optimum mill performance.

HSS MECHANICAL PROPERTIES		
U.T.S. (ksi / MPa)	130-150	895-1035
Compressive Yield (ksi / MPa)	290-320	2000-2200
Young's Modulus (ksi / MPa) x 1000	29-31	200-213
Thermal Conductivity (W/m-K / W/m-K)	29-50	29-50
Coeff. Thermal Expansion (in/in/°F / M/M/°C)	7.0-7.5 E-06	12.6-13.5 E-06

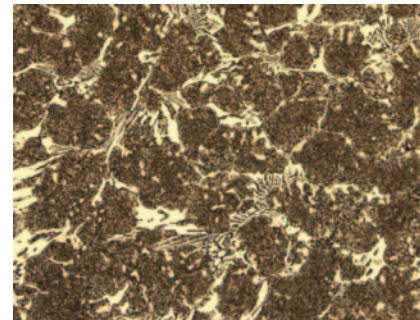
The superior wear resistance is an advantage over alternative grades, combined with a fine firecrack pattern, results in extended mill campaigns. The material will display consistent properties throughout the life of the shell.

CHEMICAL ANALYSIS		
		Low/High
C	(Carbon)	1.0/2.6
Si	(Silicon)	0.5/1.5
Mn	(Manganese)	0.5/1.8
Cr	(Chromium)	3.0/8.0
Ni	(Nickel)	1.0/2.5
Mo	(Molybdenum)	2.0/8.0
V	(Vanadium)	3.0/7.0
W	(Tungsten)	0.0/2.0
Nb	(Niobium)	0.0/2.0

HARDNESS RANGES	
	Equotip ('LD')
Normal Range	790-820

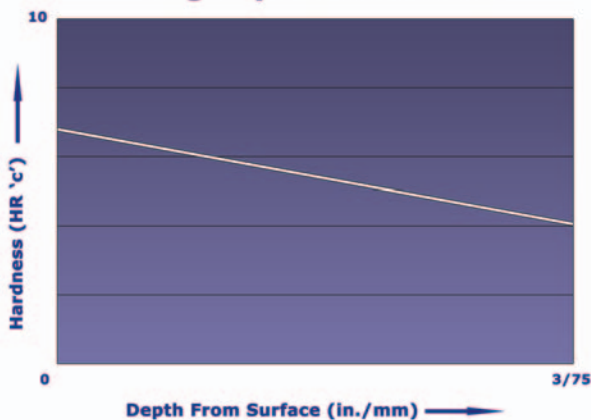
Microstructure

The microstructure consists of primary and secondary carbides in a matrix of tempered martensite.



HSS Microstructure

Hardness vs Depth High Speed Tool Steel



Typical for Nodular Core

Applications

-Work Rolls for Early Finishing
Stands of Hot Strip Mills.