

Material Barrel	Chemical composition [%]									Barrel Hardness [HSh“C“]
	C	Mn	Si	P max.	S max.	Cr	Ni	Mo	Others	
KV5M	1,5/2,1	0,4/1,3	0,3/1,3	0,08	0,02	4,0/8,0	0,3/2,0	2,0/8,0	V,W,Nb	78 - 83

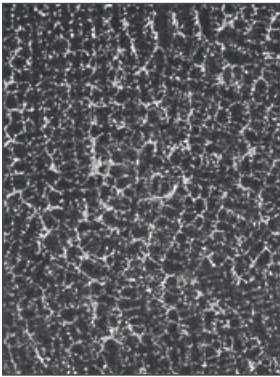
- Dimensional and weight limits:**

Ø 550-1050 mm / 6.000 mm / 22.000 kg

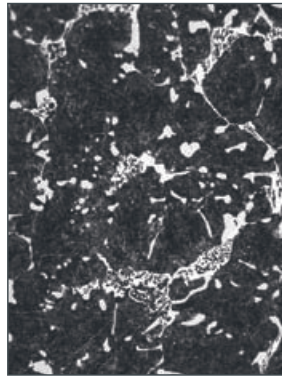
Barrel Structure

High Speed Steel created tempered martenite and transform ledeburite

100x



500x



- Heat Treatment**

Quenching by use of rotation and annealing
Low tempering and stress relieving

BARREL HARDNESS DECREASE WITH DEPT MAX. 3 SHORE C.
HARDNESS DISTRIBUTION ± 1,5 SHORE C (EACH SURFACE)

- Physical and mechanical properties**

	KV 5M
TENSILE STRENGTH - Rm [MPa]	900
BENDING STRENGTH - Rmi [MPa]	1150
YOUNG MODULUS - E.10 ³ [MPa]	225
COEFFICIENT OF THERMAL EXPANSION [m/K]	11,5 - 11,8 x 10 ⁻⁶
THERMAL CONDUCTIVITY [W/m °K]	17 - 18

Material Core - Neck	Chemical composition [%]									Neck Hardness [HSh“C“]
	C	Mn	Si	P max.	S max.	Cr max.	Ni	Mo	Others	
Nodular iron	2,8/3,5	0,1/1,0	1,5/2,5	0,06	0,02	0,3	0,60/1,20	0,05/0,30	Mg = 0,030 / 0,080	37 - 45

Core Structure

Nodular Graphite - 100x



- Physical and mechanical properties**

	Nodular Iron
TENSILE STRENGTH - Rm [MPa]	350
BENDING STRENGTH - Rmi [MPa]	540
YOUNG MODULUS - E.10 ³ [MPa]	165

- NON-Destructive testing:**

Ultrasonic Test of Shell Depth and Bond Integrity

- Product certificates**

Shell and Core Chemistry
Mechanical Testing
Hardness Measurement Report of Barrel and Necks
Dimensional Inspection of Body and Journal Diameters
Ultrasonic Report of Shell Depth and Bond Integrity

- Application**

Work rolls for finishing stands of hot strip mills