



ASP 2005 HIGH SPEED STEEL

COMPOSITION %	C	Cr	Mo	W	V
	1.5	4.0	2.5	2.5	4.0
STANDARDS	-				
CONDITION AS SUPPLIED	Soft annealed		max 260 HB		
	Cold rolled		max 300 HV		

ASP 2005 is a "multi purpose" high-speed steel, It is manufactured powder metallurgically using the ASP Process. The steel is atomized, compacted and processed to the dimensions required. The result is an extremely homogeneous steel with a unique combination of properties. ASP 2005's homogeneous structure enhances such properties as dimensional stability and shape stability during heat treatment, as well as improving grindability and toughness. Toughness is good even for large dimensions.

PHYSICAL PROPERTIES

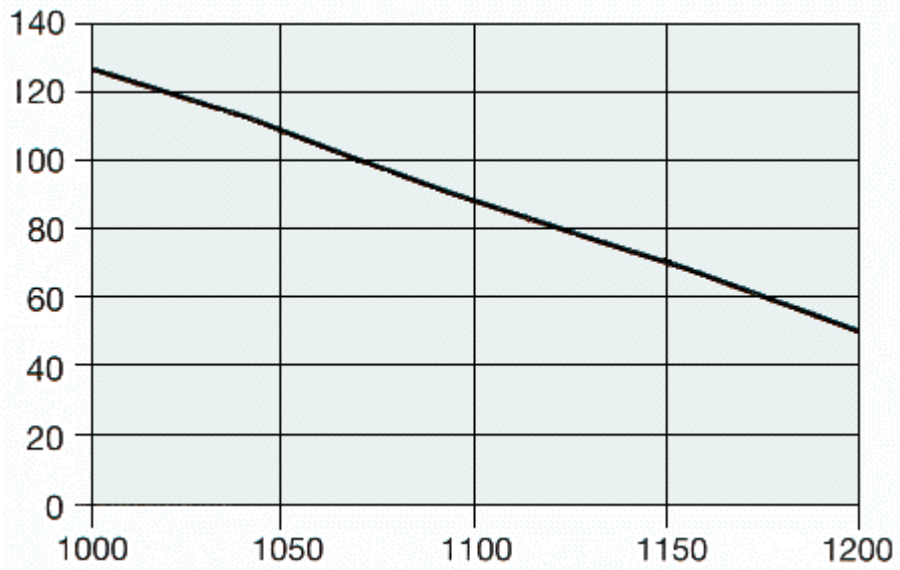
			Temperature °C		
			20	400	600
DENSITY	Kg/m ³	1	7900	7800	7735
MODULUS OF ELASTICITY	kN/mm ²	2	220	195	175
COEFFICIENT OF THERMAL EXPANSION FROM	20°C, per °C	2	-	12.1x10 ⁻⁶	12.7x10 ⁻⁶
THERMAL CONDUCTIVITY	W/m °C	2	24	28	27
SPECIFIC HEAT	J/kg °C	2	420	510	600

1 = Soft annealed

2 = Hardened 1180°C and tempered 560°C, 3x1 hour

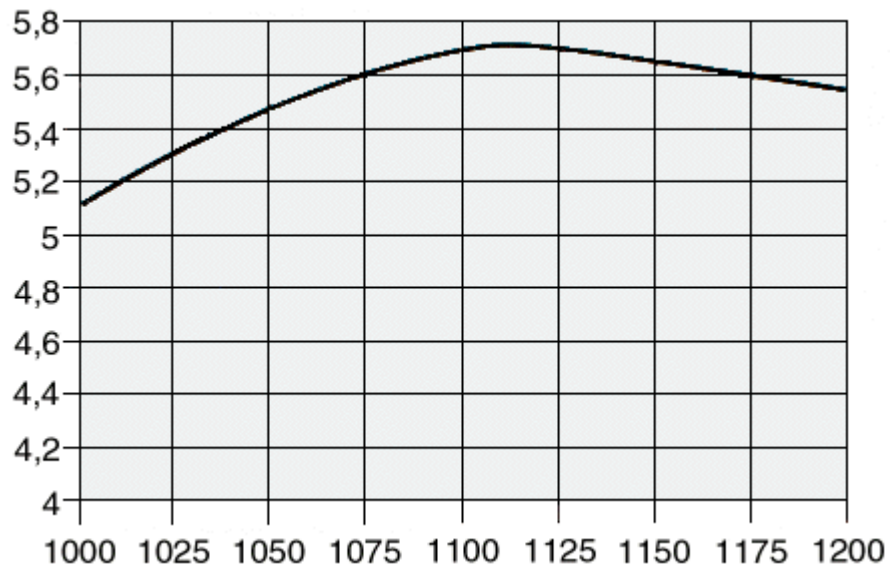
IMPACT STRENGTH

Original dimensions 9 x 12 mm
Tempering 3 x 1 hour at 560°C



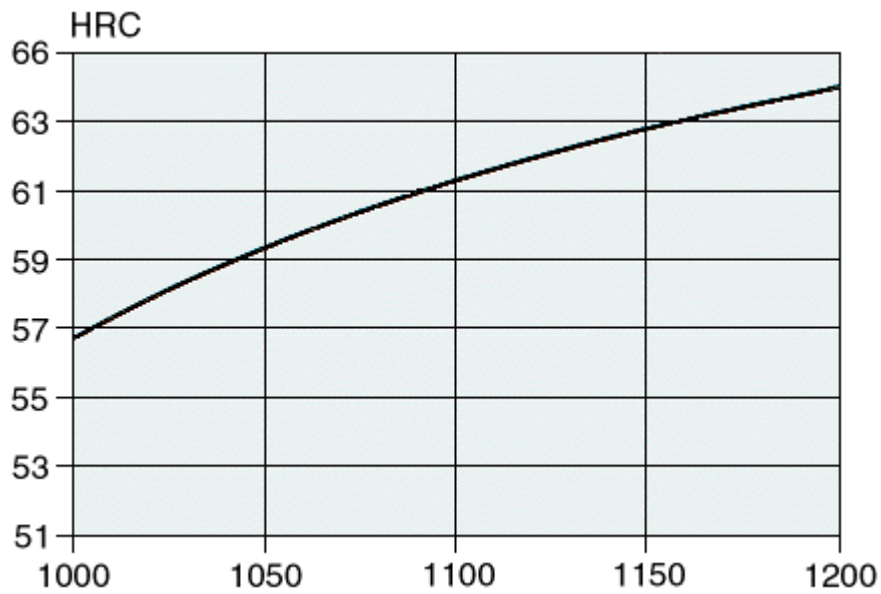
4 – POINT BENDING TEST

Original dimensions 6 mm Ø
Tempering 560°C, 3 x 1 hour



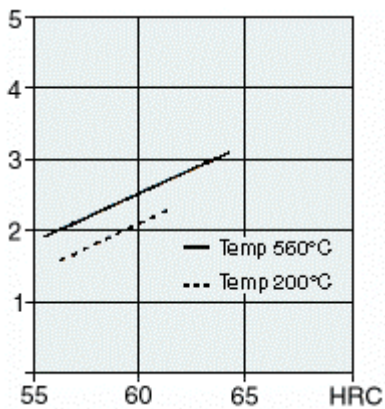
HEAT TREATMENT

- Soft-annealing 850°C – 900°C, slow cooling 10°C/h to 700°C, hardness max 260 HB.
- Stress-relieving annealing 600°C – 700°C, approx. 2 hours at temperature, slow cooling to 500°C.
- Hardening according to table.
- Tempering 3x1 hour 560°C



COMPRESSION YIELD STRESS

Test piece: hour glass with 10 mm Ø waist



GUIDELINES FOR HARDENING

Hardness HRC *	Hardening Temp °C
59	1050
60	1075
61	1100
62	1125
63	1150
64	1180