

### CHEMICAL COMPOSITION

C	Cr	Mo	W	Co	V
0.72	4.0	5.0	1.0	8.0	1.0

### STANDARDS

- Europe: HS 1-5-1-8

### DELIVERY HARDNESS

- Typical soft annealed hardness is 240 HB
- Cold drawn and cold rolled material is typically 10-40 HB harder

### DESCRIPTION

E Matrix II is a high speed steel with excellent toughness combined with a good heat resistance.

### APPLICATIONS

- Bi-metal saws
- Bandsaws
- Sabre saws

### FORM SUPPLIED

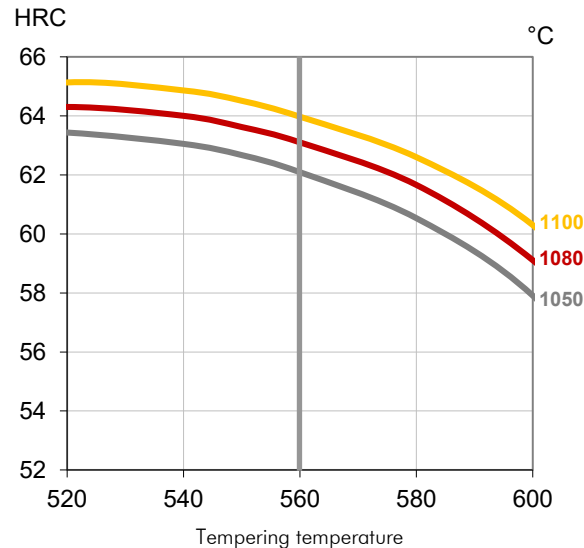
- Bi-metal edges
- Strips

Available surface conditions: cold rolled.

### HEAT TREATMENT

- Soft annealing in a protective atmosphere at 850-900°C for 3 hours, followed by slow cooling 10°C per hour down to 700°C, then air cooling.
- Stress-relieving at 600°C to 700°C for approximately 2 hours, slow cooling down to 500°C.
- Hardening in a protective atmosphere with pre-heating in 2 steps at 450-500°C and 850-900°C and austenitising at a temperature suitable for chosen working hardness.
- 2 tempers at 560°C are recommended with at least 1 hour holding time each time.

### GUIDELINES FOR HARDENING



Hardness after hardening, quenching and tempering 2x1 hour

Tool	Hardening	Tempering
Saws	1050-1100°C	550-570°C

### PROCESSING

E MAT II can be worked as follows:

- machining (grinding, turning, milling)
- polishing
- hot forming
- electrical discharge machining
- welding (special procedure including preheating and filler materials of base material composition).

### GRINDING

During grinding, local heating of the surface, which can alter the temper, must be avoided. Grinding wheel manufacturers can provide advice on the choice of grinding wheels.

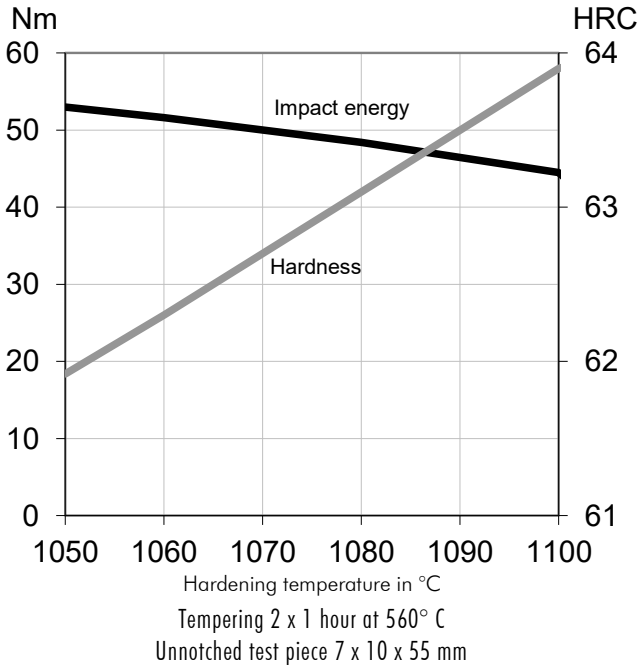
### SURFACE TREATMENT

The steel grade is a perfect substrate material for PVD coating. If nitriding is requested, a small diffusion zone is recommended but avoid compound and oxidized layers.

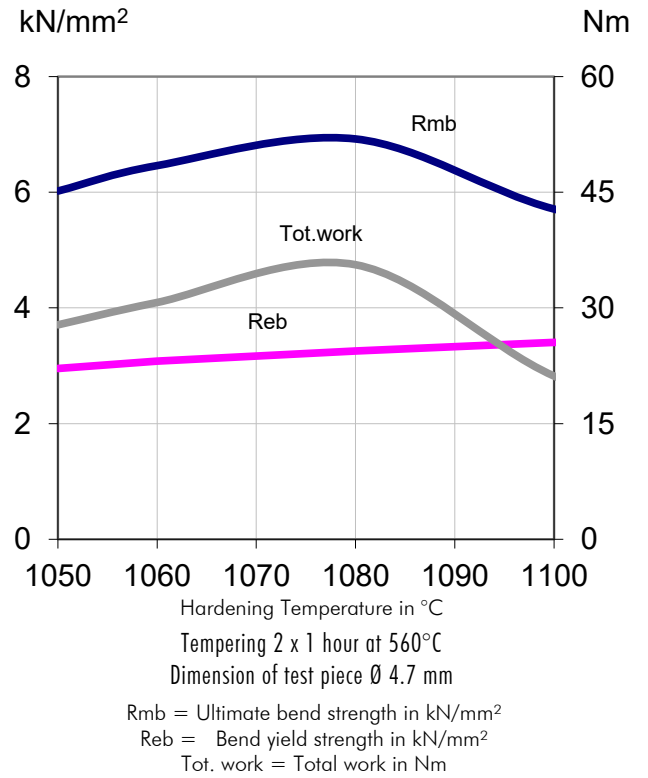
**PHYSICAL PROPERTIES**

Temperature	20°C
Density g /cm <sup>3</sup>	7.9

**IMPACT TOUGHNESS**



**4-POINT BEND STRENGTH**



**SAFETY DATA SHEET SDS: B**

**COMPARATIVE PROPERTIES**

