Doerrenberg

Special Steel

DE - Brand:
PMD550

Chemical composition:
(Typical analysis in %)

C	Cr	Mo	V	Co			
2,60	17,00	1,80	3,30	2,00			

Steel properties:

Powder-metallurgical martensitic stainless steel with Co-content, high carbide volume with finely distributed carbides, homogenous microstructure within whole cross-section.

Compared to PMD440 higher hardness and higher hardness stability at elevated temperatures.

Applications:

Processing of abrasive polymers, with both corrosion and wear, food processing industry, stainless wear resistant parts, general tooling.

Condition of delivery:

Soft annealed to max. 330 HB

Physical properties:

Thermal expansion coefficient	$\left[\frac{10^{-6} \cdot m}{m \cdot K}\right]$	20-100°C	20-200°C	20-300°C	20-400°C
		10,7	10,8	11,2	11,6

Thermal conductivity	$\left[\frac{W}{m \cdot K}\right]$	20°C	350°C
		19,1	21,5

Heat treatment:

Soft annealing
Annealing only in neutral atmosphere

Temperature	Cooling	Hardness
880 - 900°C	furnace	max. 330 HB

Stress relief annealing

Temperature	Cooling	
600 - 650°C	furnace	

Hardening

Temperature	Cooling	Tempering
1060 - 1130°C	oil, pressure gas (N_2), air or hot bath 500 - 550°C	see tempering diagram

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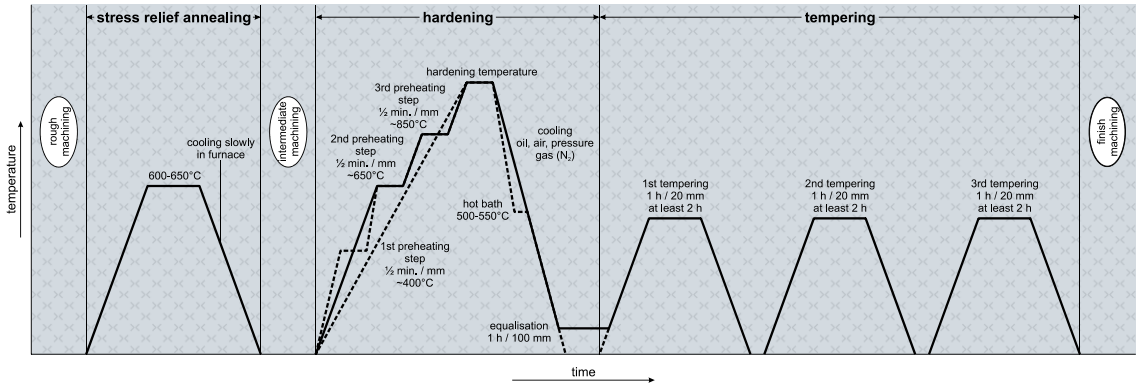
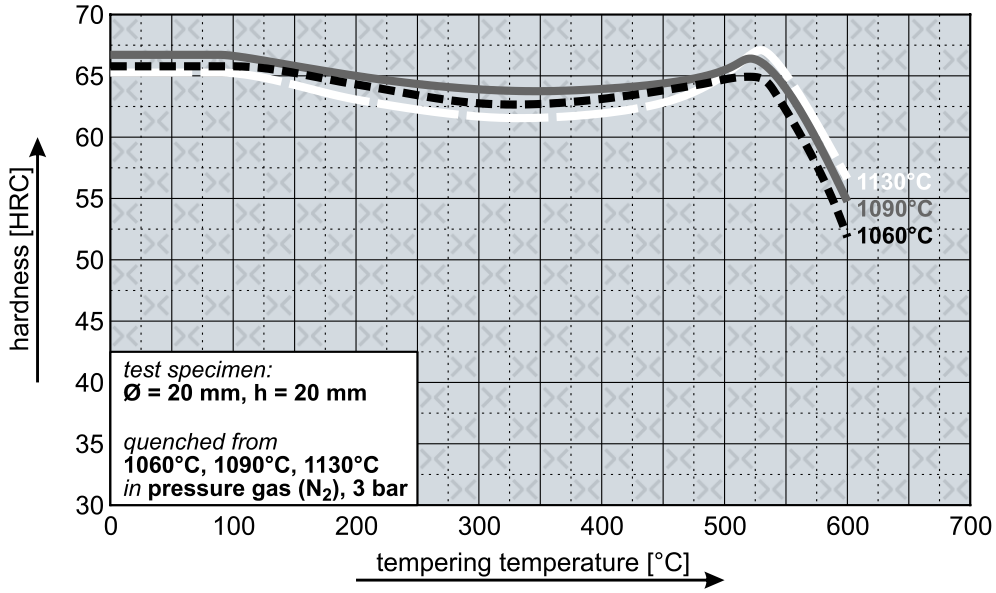
(PMD550) Thermal Cycle Diagram



Tempering Diagram



Remarks: All technical information is for reference only.