RECOMA

The complete range of $SmCo_5$ and Sm_2Co_{17} alloys

Since the beginning of rare earth magnet production in the early 1970's, Recoma® has been a synonym for high quality SmCo materials. The combination of excellent magnetic properties with superior temperature and corrosion stability has made these materials the standard for applications in demanding environments.

Offering the best magnetic properties at elevated temperatures, SmCo magnets are widely used in the chemical and aerospace industries, as well as in many automotive "under the hood" applications. Owing to their superior corrosion stability, SmCo magnets can in most cases be used without protective coating. And since they show little or no surface degradation during machining, SmCo are the ideal materials for rare earth micromagnets.

There are two families of SmCo materials. The Sm_2Co_{17} magnets show the highest magnetic performance at elevated temperatures. Magnets based on $SmCo_5$ offer easy magnetizing in moderate fields and the best corrosion resistance of all rare earth magnets.

The most common Recoma materials are presented in detail on the following pages. In addition to these main grades, materials with rather unique properties are available: Materials where the temperature coefficient of magnetization can be adjusted to a preferred value (including zero), or materials for highest operating temperatures up to 500°C and beyond. These materials are usually customized to the requirements of the individual customer. Please contact us for a solution to your application.

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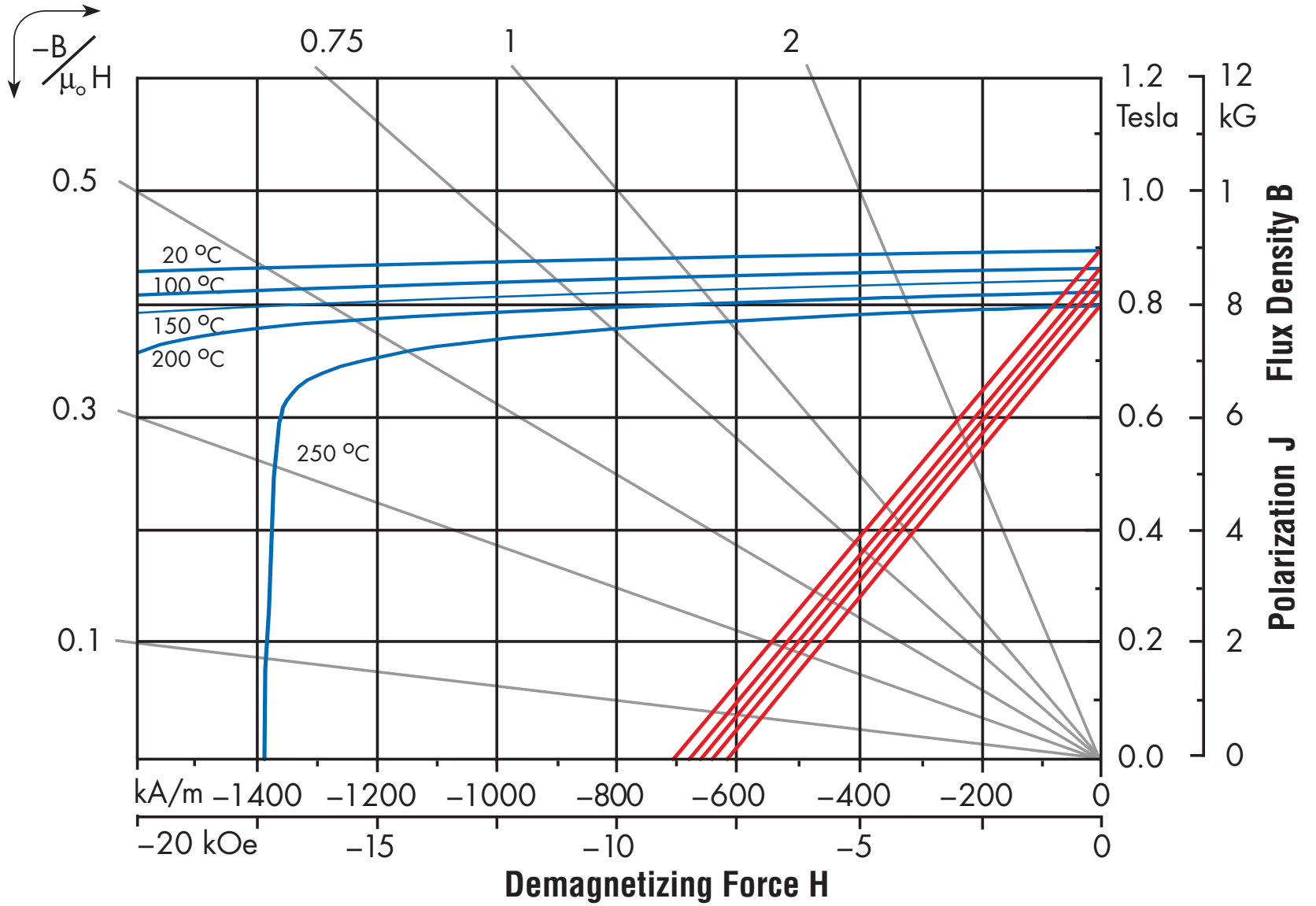
Product 1)	$(BH)_{max}$ kJ/m³ typ.	$(BH)_{max}$ kJ/m³ min	$(BH)_{max}$ MGOe typ.	$(BH)_{max}$ MGOe min.	Br T typ.	Br T min.	Br kG typ.	Br kG min.	H_{cB} kA/m typ.	H_{cB} kA/m min.	H_{cB} kOe typ.	H_{cB} kOe min.	Intrinsic Coercivity H_{oJ} kA/m typ.	Intrinsic Coercivity H_{oJ} kA/m min.	Intrinsic Coercivity H_{oJ} kOe typ.	Intrinsic Coercivity H_{oJ} kOe min.	Relative Permeability typ.	Density g/cm³ typ.	2) Magnetizing Field kA/m min.	Temperature Coefficient of Br, α (23-150 °C) %/K typ.	Temperature Coefficient of H_{cJ}, β (23-150 °C) %/K typ.	3) Maximum Operating Temperature °C
Recoma® 20 (140/200) aA	160	140	20	18	0.9	0.85	9	8.5	700	640	8.8	8	2400	2000	30	25	1.02	8.4	>2000	-0.045	-0.200	250
Recoma® 22 (155/200) aT	175	155	22	20	0.94	0.9	9.4	9	730	680	9.2	8.5	2400	2000	30	25	1.02	8.4	>2000	-0.045	-0.200	250
Recoma® 25 (180/200) aT	200	180	25	23	1	0.97	10	9.7	775	720	10	9	2400	2000	30	25	1.02	8.4	>2000	-0.050	-0.200	250
Recoma® 24HE (175/150) aA	195	175	24.5	22	1.02	0.97	10.2	9.7	765	715	9.6	9	2000	1500	25	19	1.05	8.4	>4000	-0.035	-0.200	350
Recoma® 26HE (195/150) aT	215	195	27	24.5	1.07	1.03	10.7	10.3	800	755	10	9.5	2000	1500	25	19	1.05	8.4	>4000	-0.035	-0.200	350
Recoma® 26 (185/120) aA	205	185	26	23	1.04	1	10.4	10	765	680	9.6	8.5	2000	1200	25	15	1.05	8.3	>4000	-0.035	-0.200	350
Recoma® 28 (195/120) aT	225	195	28	24.5	1.1	1.04	11	10.4	800	700	10	8.8	2000	1200	25	15	1.05	8.3	>4000	-0.035	-0.200	350

1) i = Isotropic; a = Anisotropic
A = Axial; T = Transverse or Isostatic

2) Magnetizing Field – Values are dependent on size, shape and characteristics of the magnetizing pulse
3) Maximum Operating Temperature – In the presence of strong demagnetizing fields, or if the magnets operate on a low loadline, the maximum temperature may be lower

Recoma 20

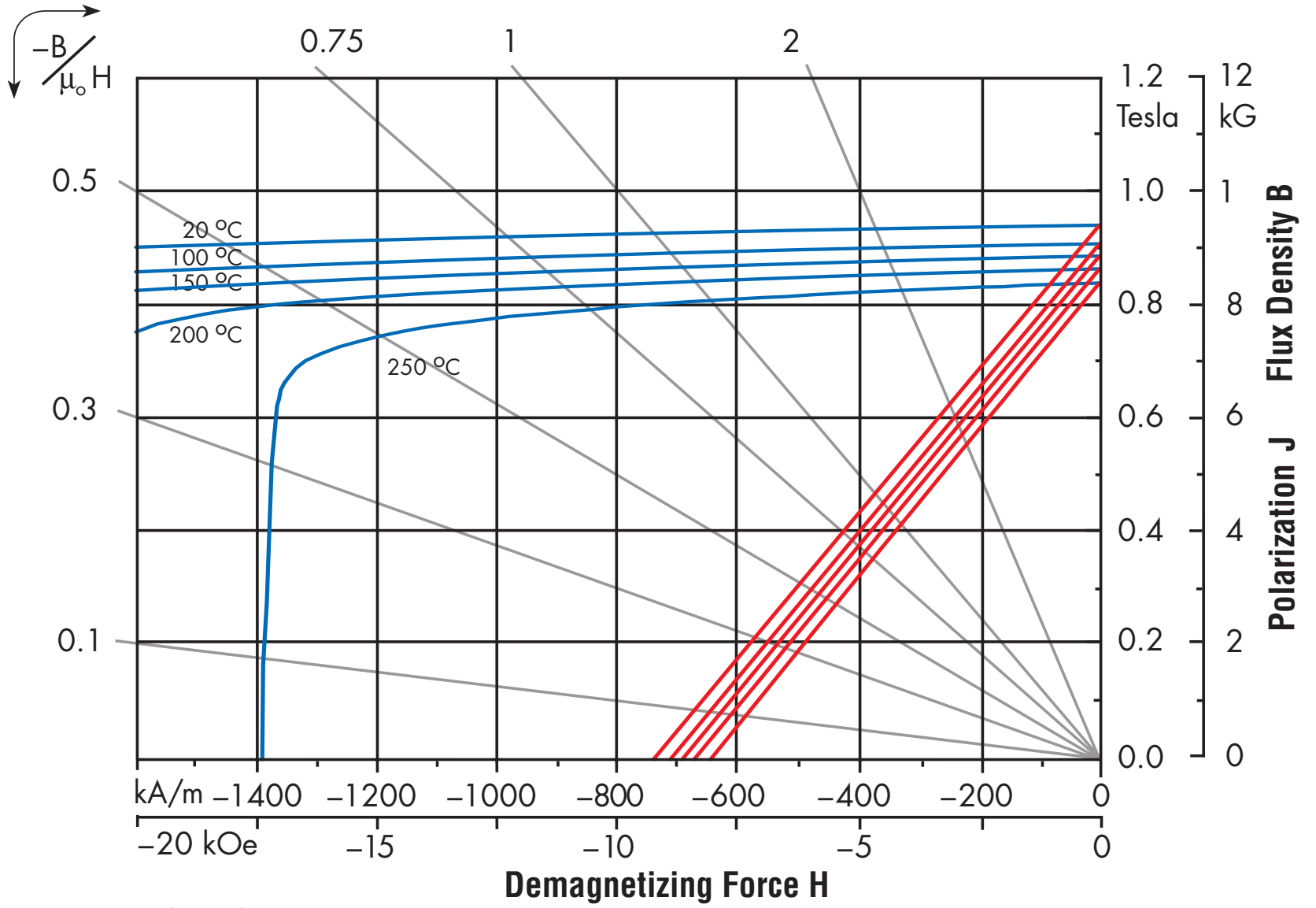
Demagnetization Curves



1 kA/m = 12.566 Oe 1 kOe = 79.577 kA/m

Recoma 22

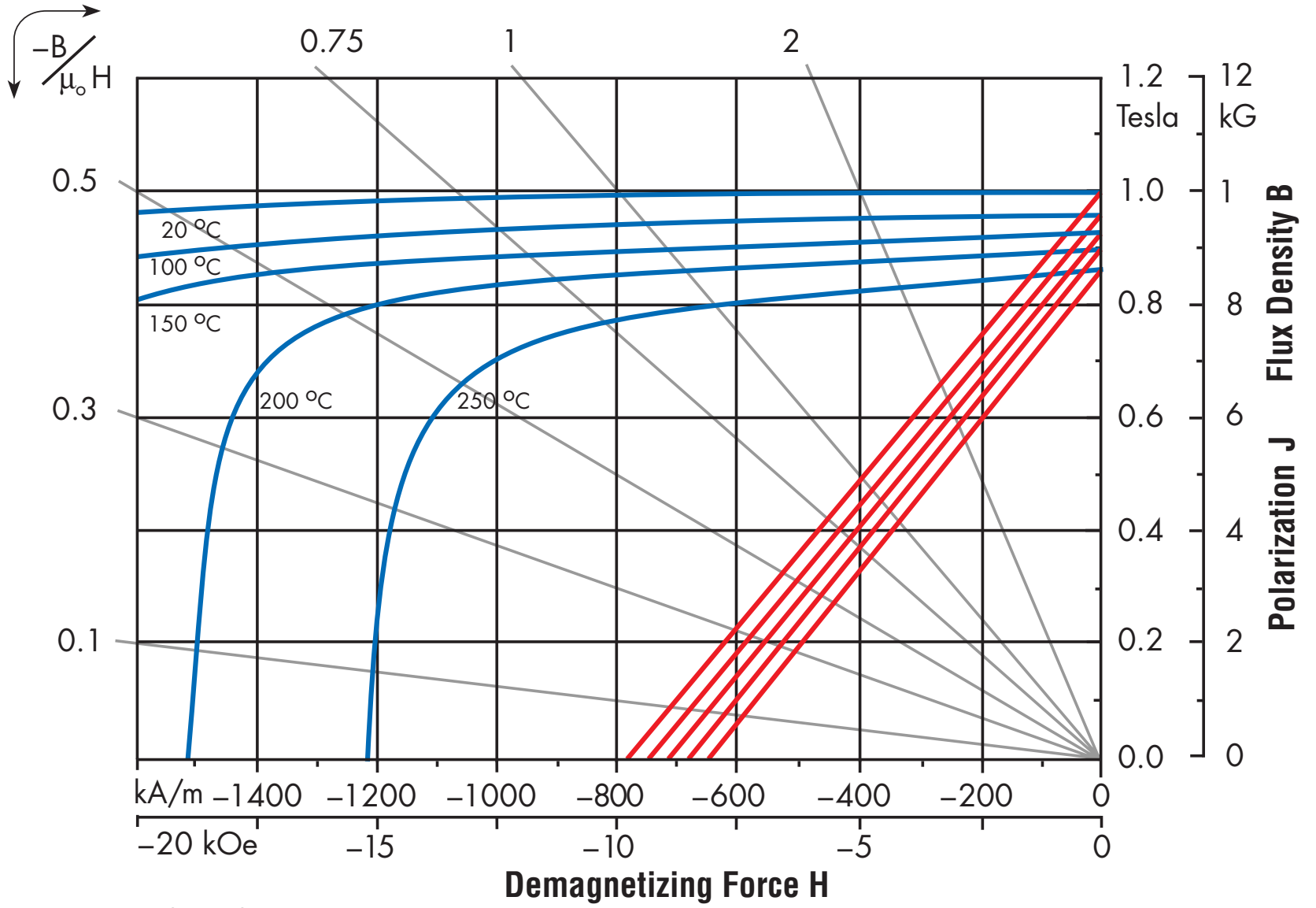
Demagnetization Curves



1 kA/m = 12.566 Oe 1 kOe = 79.577 kA/m

Recoma 25

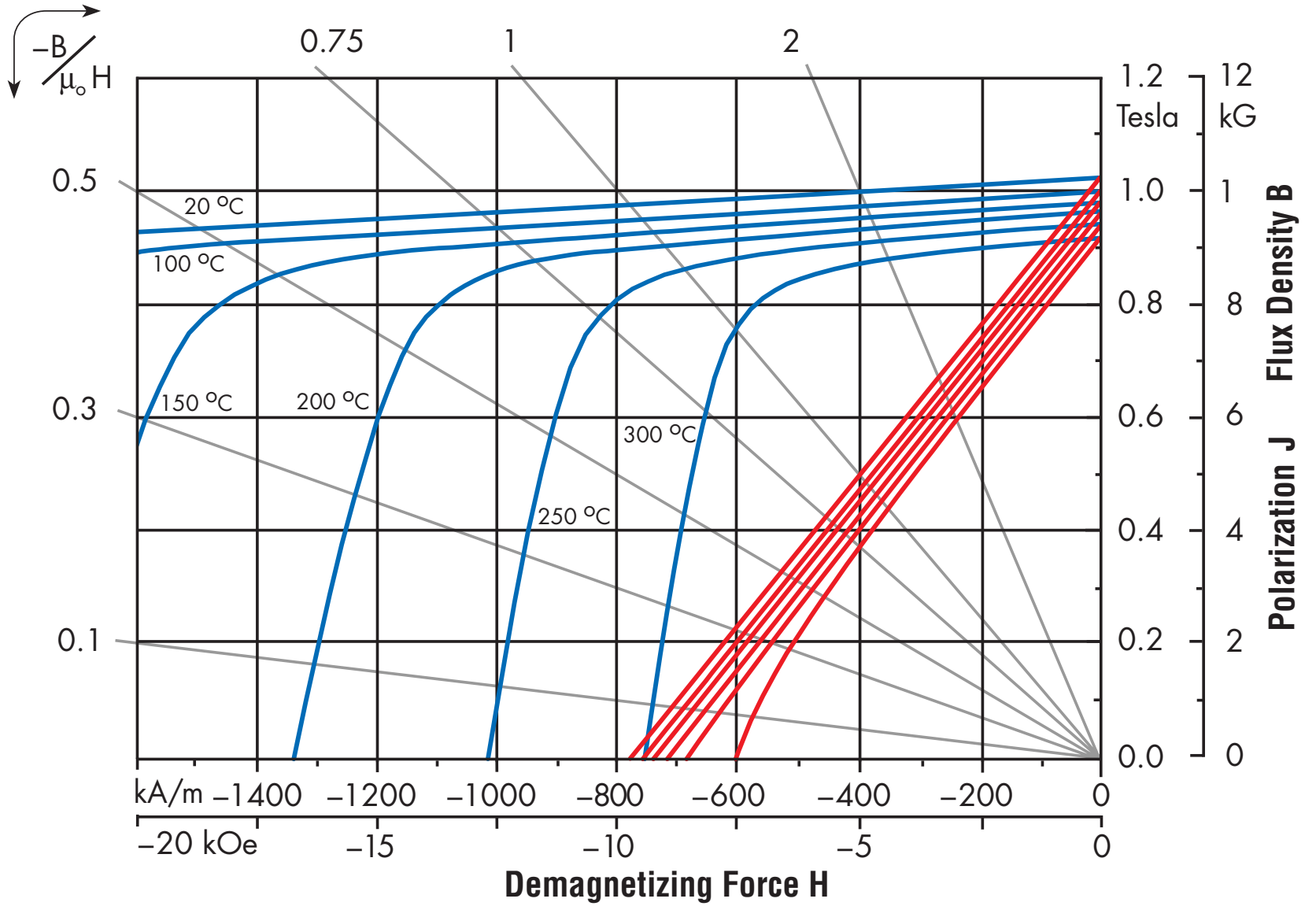
Demagnetization Curves



1 kA/m = 12.566 Oe 1 kOe = 79.577 kA/m

Recoma 24 HE

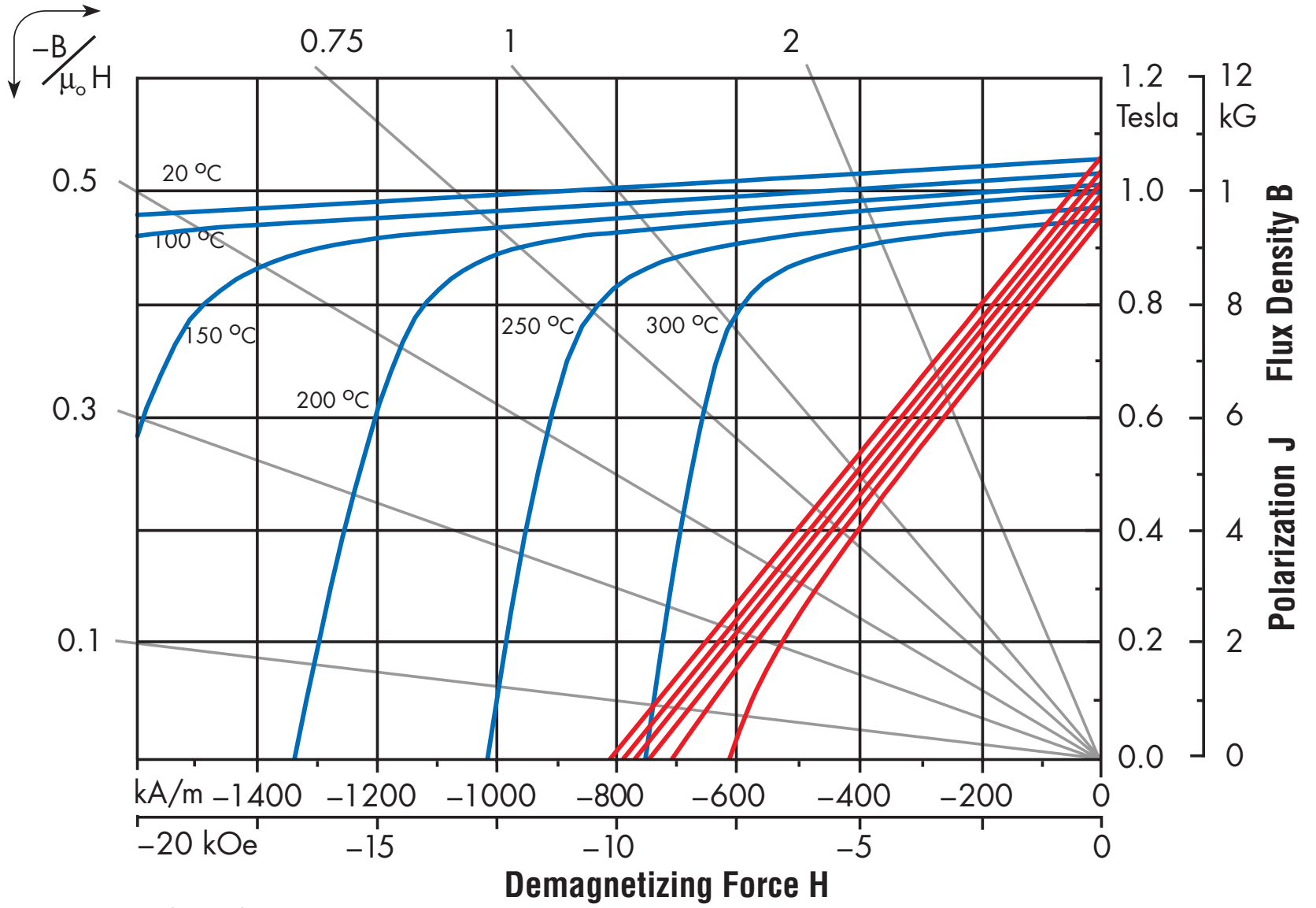
Demagnetization Curves



1 kA/m = 12.566 Oe 1 kOe = 79.577 kA/m

Recoma 26 HE

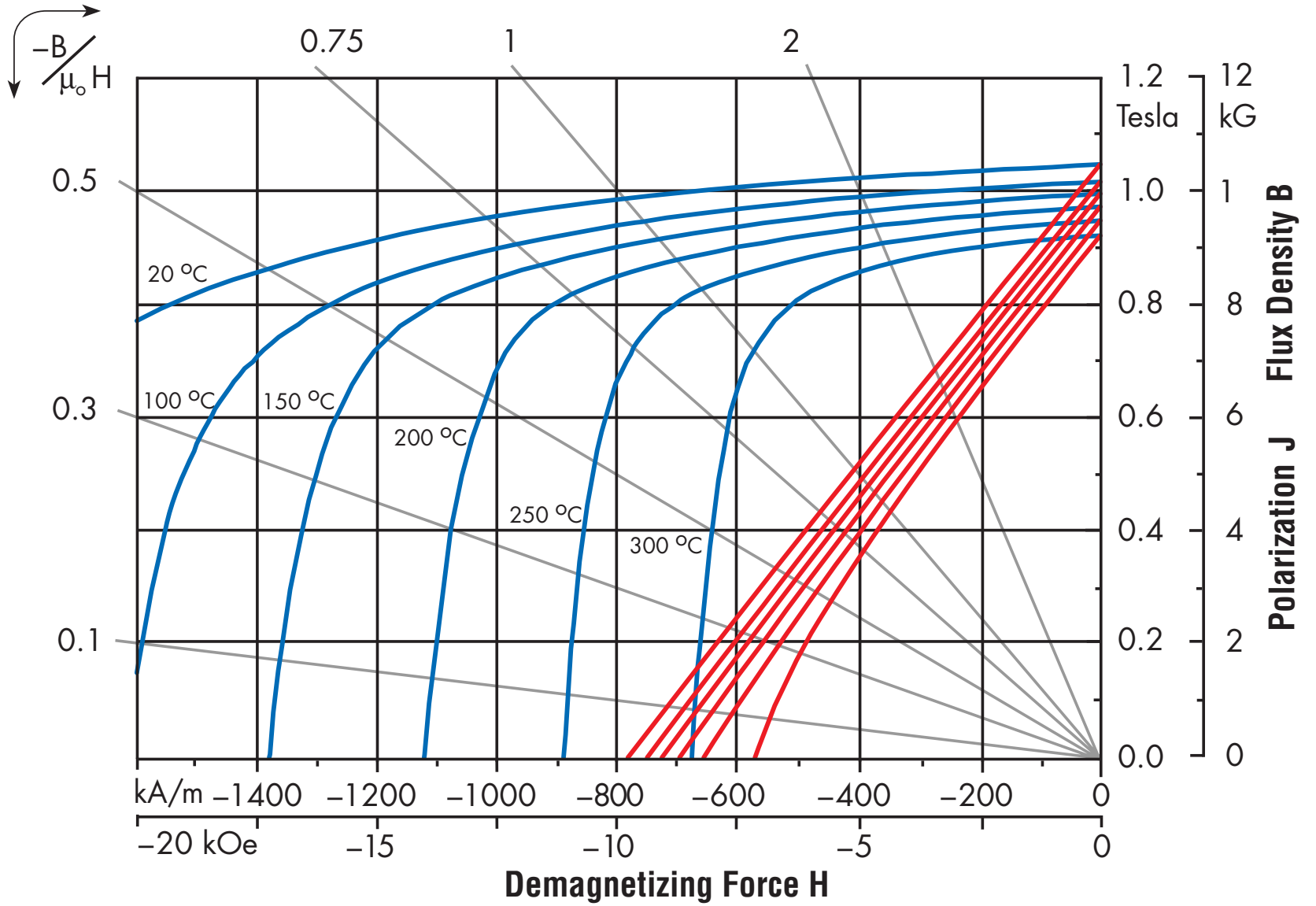
Demagnetization Curves



1 kA/m = 12.566 Oe 1 kOe = 79.577 kA/m

Recoma 26

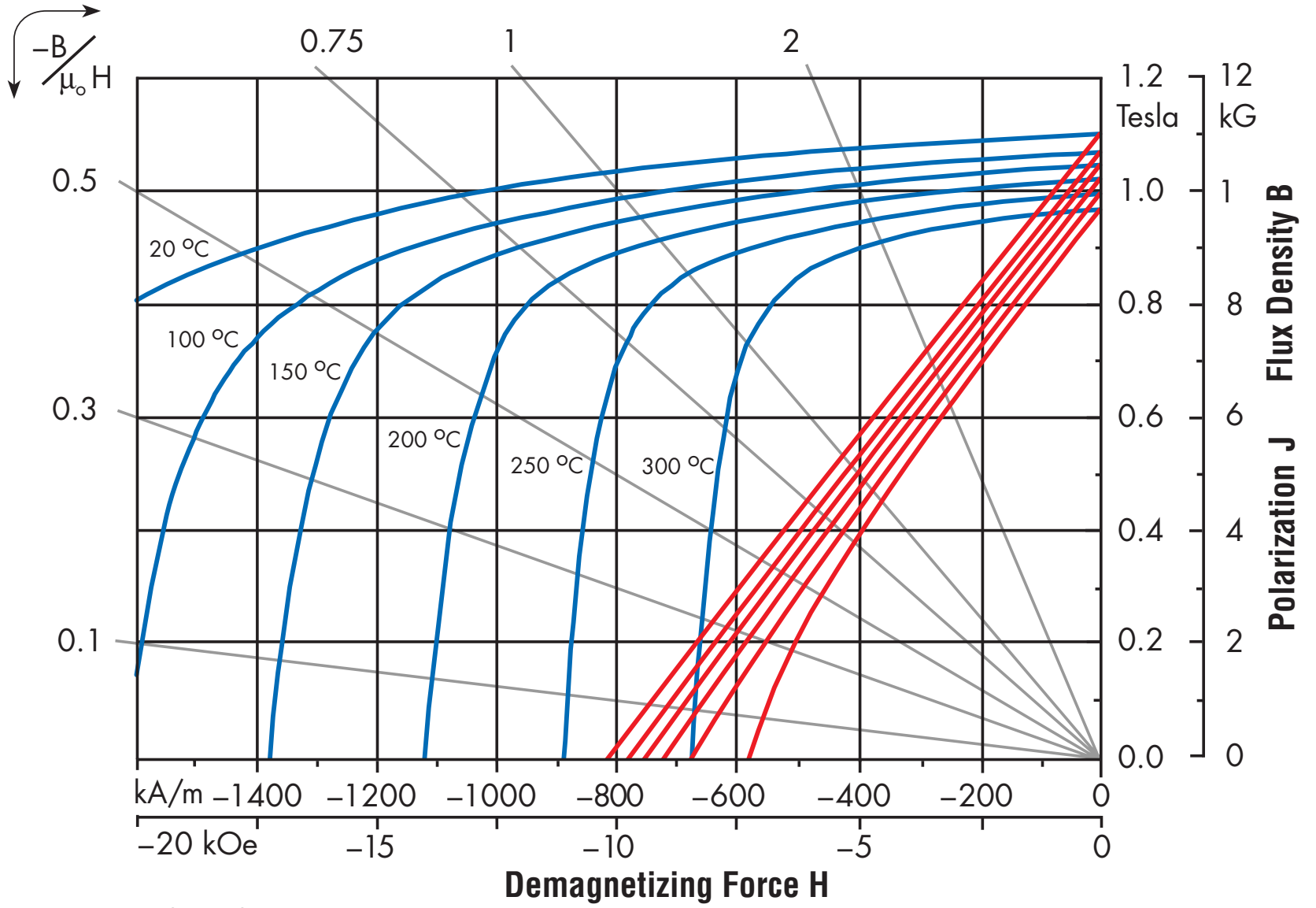
Demagnetization Curves



1 kA/m = 12.566 Oe 1 kOe = 79.577 kA/m

Recoma 28

Demagnetization Curves



1 kA/m = 12.566 Oe 1 kOe = 79.577 kA/m