

Microscope Slides – Data Sheet

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European Technical Centre

Chemical and Physical Properties of Knittel Microscope Slides

Typical composition:	
% by Weight : SiO ₂ Al ₂ O ₃ , Fe ₂ O ₃ , RO(CaO+MgO), R ₂ O(Na ₂ O+K ₂ O) 72-73 %, 0.5-0.7 %, 0.10-0.130 %, 12.7-13.1 %, 13.2-13.6 %	
Transmission T _L (Auge * D65) for glass thicknesses of	
1 mm T _L = 91.2 % ± 1 %	5 mm T _L = 89.0 % ± 1 %
1.2 mm TL = 91.1 % ± 1%	6 mm T _L = 88.5 % ± 1 %
1.6 mm TI = 90.8 % ± 1%	7 mm T _L = 88.0 % ± 1 %
2 mm T _L = 90.6 % ± 1 %	8 mm T _L = 87.5 % ± 1 %
3 mm T _L = 90.1 % ± 1 %	9 mm T _L = 87.0 % ± 1 %
4 mm T _L = 89.6 % ± 1 %	10 mm TL = 86.5 % ± 1%
Refractive index	(N _d) = 1.52
Density	ρ = 2.49 kg/dm ³
Coefficient of thermal expansion	α = 9 X 10 ⁻⁶ K ⁻¹ @ 50-350 deg.C
Thermal conductivity	0.9 W/mK @ 248deg.C 1.6 W/mK @ 463deg.C
Young's modulus	73 GNm ⁻²
Poissons ratio	0.224
Strain point	Logη = 14.5; T ~ 530°C
Transformation temperature	Logη = 12.3; T ~ 567°C
Annealing point	Logη = 13.0; T ~ 557°C
Dilatometric start of softening	Logη = 10,3; T ~ 598°C
Softening point	Logη = 7.6; T ~ 726°C (η = Viscosity in Pa.s)
Alkaline resistance	class 2
Acid resistance	class 3
Hydrolytic resistance	class 3

Anmerkung: Objektträger, aus ¾-weißem Maschinenglas aus Romont (CH), weisen im Vergleich dazu zwar einen geringeren Fe₂O₃-Gehalt von 0,03% auf, aber gleichzeitig höhere Alkalianteile, und dadurch eine schlechtere hydrolytische Beständigkeit.