

Specification Physical and chemical properties	PCP D 0888
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BaSF 64

D 0888

Colour: clear

Application: High index light weight glass
for corrective lenses with high power

The subsequent properties are based primarily upon the measuring results of the very latest standards and measuring methods, which are defined in corresponding "Measuring and Test Procedures".

We retain the right to change the data in keeping with the latest technical standards.

Non-toleranced numerical values are reference values of an average production quality.

Values marked with \diamond do not apply to the type of glass or no values are available.

Requirements deviating from these specifications must be defined in writing in a **customer agreement**.

Specification		PCP				
Physical and chemical properties		D 0888				
1. Optical properties						
1.1 Refractive indices (20 °C)						
Pretreatment of samples	n_g	1.7237				
[x] Condition as supplied	$n_{F'}$	1.7145				
[] annealed at 40 °C/h for bifocals *± 0.0003	n_F	1.7135				
	n_e	1.7052 ± 0.001*				
	n_d	1.7010				
	n_D	1.7008				
	$n_{C'}$	1.6965				
	n_C	1.6957				
1.1.1 Abbe value						
	v_e	39.2 ± 0.6				
	v_d	39.4				
1.2 Transmittance data						
1.2.1 Spectral transmittance $\tau(\lambda)$						
1.2.1.1 $\tau(\lambda)$ - curve						
Plot of spectral transmittance $\tau(\lambda)$ for $d = 2.0$ mm ($\lambda = 300$ nm to 1500 nm)		see annex				
1.2.1.2 $\tau(\lambda)$ - individual values in % ($d = 2.0$ mm)						
	$\tau(\lambda)_{\max}$ for the λ - range 280 nm to 315 nm	< 0.001				
	$\tau(\lambda)_{\max}$ for the λ - range 315 nm to 350 nm	55				
	τ_{380}	82.5				
	$\tau(\lambda)_{\min}$ for the λ - range 500 nm to 650 nm	◇				
1.2.1.3 Edge wavelength ($d = 2.0$ mm)						
	Edge wavelength λ_c ($\tau = 0.46$) in nm	347				
1.2.2 Luminous transmittance τ_v						
1.2.2.1 Luminous transmittance τ_{vD65} in % at nominal thickness			87.3* ± 0.5			
$d = 2.0$ mm * nominal transmittance						
Luminous transmittance as a function of thickness						
Thickness in mm	1.4	2.0	3.0	4.0	5.0	6.0
τ_{vD65} in %	87.4	87.3	87.3	87.2	87.1	87.0
τ_{vA} in %	87.4	87.4	87.4	87.3	87.2	87.1
τ_{vC} in %	87.4	87.3	87.3	87.2	87.1	87.0

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1.2.2.2	Scale number / Filter category		
	N for mean thickness $d =$ mm ($\tau_{vD65} =$ %)		◇
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	filter category for nominal transmittance $\tau_{vD65} =$ %		◇
1.2.3	Special transmittance values in % ($d = 2.0$ mm)		
1.2.3.1	UV - transmittance		
		τ_{UVA}	42.0
		τ_{SUV}	◇
		τ_{SUVA}	◇
		τ_{SUVB}	◇
1.2.3.2	IR - transmittance	τ_{SIR}	88
1.2.3.3	Solar blue - light transmittance	τ_{sb}	◇
1.3	Colour		
1.3.1	Visual evaluation		◇
1.3.2	Colorimetry		
	Chromaticity coordinates	X_{10}	0.315
		Y_{10}	0.333
	Chromaticity coordinates (colour locus) are referred to the Standard Illuminant D_{65} according to CIE 10°-observer for the nominal transmittance $\tau_{vD65} = 87.3$ %		
	(refer to 1.2.2.1)		
1.3.3	Signal light recognition		
	Relative visual attenuation coefficient (quotient) Q	Q_{blue}	1.00
	for signal light recognition referred to the	Q_{green}	1.00
	nominal transmittance $\tau_{vD65} = 87.3$ %	Q_{yellow}	1.00
	(refer to 1.2.2.1)	Q_{red}	1.00
1.3.4	Yellowness index ($d = 10$ mm)		
		Y_i	2.8

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2. Thermal properties		
2.1 Viscosities and corresponding temperatures		
Designation	Viscosity lg η in dPas	Temperatur ϑ in °C
Strain point	14.5	567
Annealing point	13.0	590
Softening point	7.6	714
Forming temperature	6.0	772
Forming temperature	5.0	816
Forming temperature	4.0	870
2.2 Transformation temperature T_g in °C		589
2.3 Coefficient of mean linear thermal expansion $\alpha(20\text{ °C};300\text{ °C})$ in 10^{-6} K^{-1} (Static measurement)		8.6
2.4 Fuseability		◇
2.5 Mean specific heat capacity $c_p(20\text{ °C to }100\text{ °C})$ in J/(g · K)		◇
3. Mechanical properties		
3.1 Density ρ in g/cm³		3.20
3.2 Stress optical coefficient C in $1.02 \cdot 10^{-12}\text{ m}^2/\text{N}$		2.35
3.3 Breaking strength		
A higher mechanical strength can be realized only by thermal toughening.		
3.3.1 Chemical toughening		not possible
3.3.2 Thermal toughening		
Recommended minimum thickness d in mm for toughened safety glass lenses without corrective effect as per ball drop test (DIN EN 168)		2.5
3.4 Young's modulus E in kN/mm²		105
3.5 Poisson's ratio μ		0.262
3.6 Torsion modulus G in kN/mm²		42
3.7 Knoop hardness $HK\ 0.1/20$		540

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4.	Chemical properties		
4.1	Hydrolytic resistance acc. to DIN ISO 719		
		Hydrolytic class	HGB 2
	Equivalent of alkali (Na ₂ O) per gram of glass grains in µg/g		42
4.2	Acid resistance acc. to DIN 12 116		
		Acid class	S 4
	Half surface weight loss after 6 hours in mg/dm ²		> 250
4.3	Alkali resistance acc. to DIN ISO 695		
		Class	A 1
	Surface weight loss after 3 hours in mg/dm ²		24
4.4	Hazardous Substances		
	EC-directive 2002/95/EC (RoHS-directive)	on request	
5.	Electrical properties	disregarded	
6.	Other properties	disregarded	
7.	Annex (diagrams, curves)		

Form 0050/1e

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Spectral Transmittance

Type of Glass: BaSF 64

Thickness: 2.00 mm

