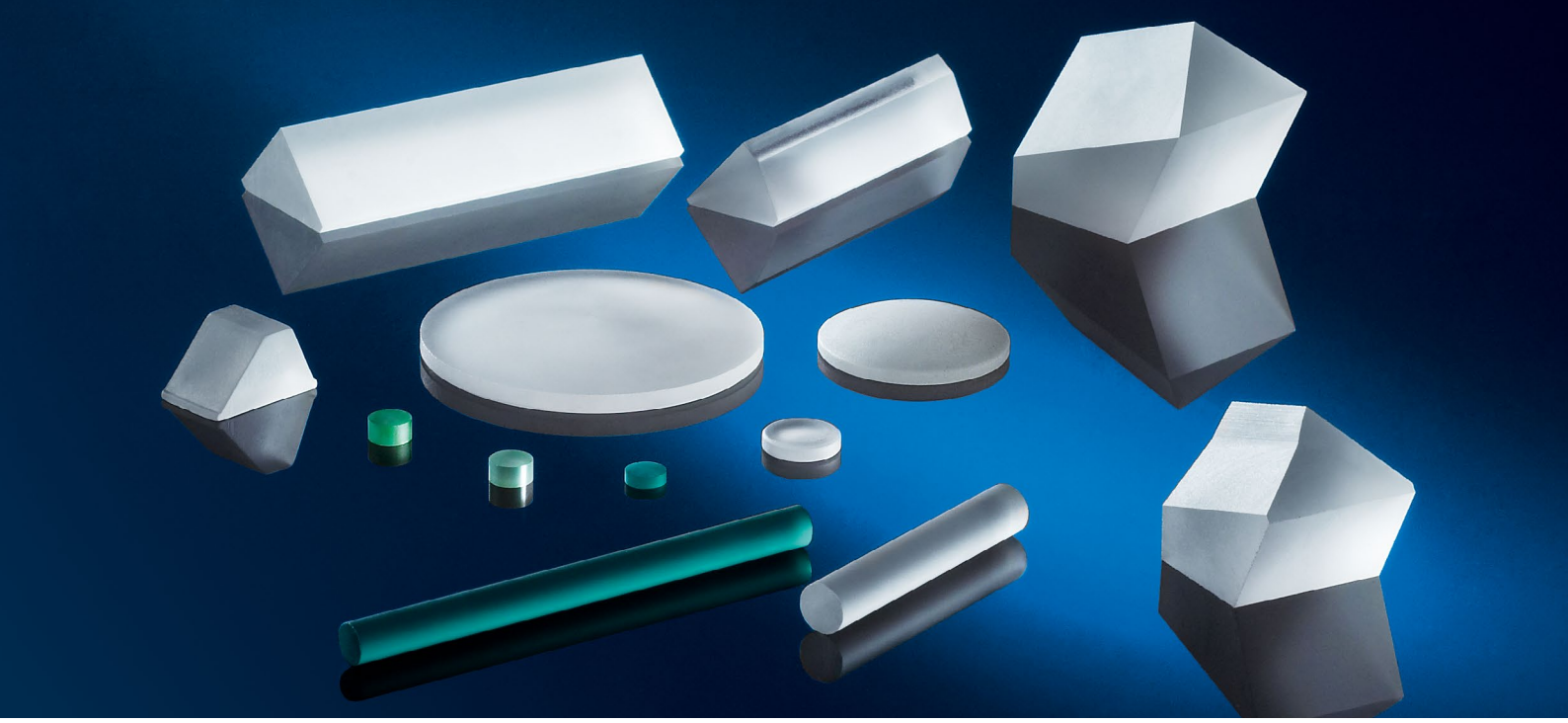


Pressed blanks

Product information

Pressed blanks are hot formed parts produced by pressing of re-heated, softened optical glass, specialty glass or filter glass.

SCHOTT molds high grade optical blanks, serving the precision and consumer segments of the market with round blanks, prisms and various shapes for special applications.

In general, pressed blanks are preferred as preforms for an economical production of lenses, prisms and other geometries.

Specific advantages

- Pressing of prisms and blanks with highest precision
- Long experience in handling difficult glasses and geometries and production of high end precision parts
- Offering a wide range of dimensions using special machines: 0.2 g – 6 kg; diameter 5 – 300 mm
- Added value available: e.g. curve generation for blanks, plano-grinding and polishing for prisms
- Producing and handling big volumes for mass production
- Large variety of glass types in stock for fast delivery for a wide range of requirements → express supply of small volumes for sampling

Applications

Pressed blanks can be used in all optical applications, such as:

- Digital cameras
- Digital projection
- Binoculars
- Microscopy
- Industrial applications

Materials

- All types of optical glass: e.g. SCHOTT N-BK7®, N-FK51A, N-LASF31A
- High transmission glass types (lead containing and lead free): e.g. SF57HTultra, N-SF57HT, N-SF57HTultra, N-SK2HT
- Radiation resistant glass types and certain inquiry glass types: e.g. BK7G18, SF11, SF6G05
- Optical filter glasses: e.g. KG 3
- Technical glasses: B 270®, AF 32®

High quality optical specifications (details are available on demand)

- Refractive index tolerance: up to ± 0,0002 (step 1)
- Abbe number tolerance: up to ± 0,2 % (step 1)
- Refractive index variation within a lot up to ± 5 x 10^{-5} (LH2)
- Stria free pressings in one (VS1) or two directions (VS2, for prisms)
- Low stress birefringence ≤ 4 nm/cm (SSK) in pieces up to 300 mm diameter
- Refractive index homogeneity in the individual piece

Single supply source –
From raw glass to pressed blanks and additional refining steps

SCHOTT

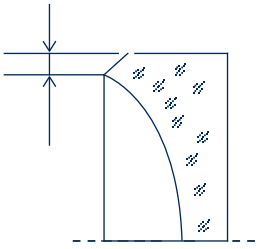
Pressed blanks

Dimensional specifications

For molded/Pressed blanks (Hot formed parts) Tolerances					
				Wallside/Edge thickness	
Diameter (mm)	For diameter (mm)	For center thickness (CT) (mm)	Minimum thickness (CT) (mm)	Minimum (mm)	Maximum (mm)
> 5 – 18	± 0.075	± 0.3	2	1.0	0.6 x Ø
> 18 – 30	± 0.11	± 0.3	3	1.5	0.45 x Ø
> 30 – 60	± 0.14	± 0.3	4	3	0.4 x Ø
> 60 – 90	± 0.175	± 0.3	5	4	0.3 x Ø
> 90 – 120	± 0.25	± 0.4	6	5	0.3 x Ø
> 120 – 140	± 0.3	± 0.4	7	5	0.3 x Ø
> 140 – 180	± 0.4	± 0.4	7	6	0.3 x Ø
> 180 – 250	± 0.5	± 0.5	10	8	0.3 x Ø
> 250 – 305	± 0.6	± 0.6	10	8	0.3 x Ø

For molded/Pressed prisms (Hot formed parts) Tolerances				
Max. edge length (mm)	For edge length (mm)	For HT (CT) (mm)	Angular	Socket (mm)
> 5 – 30	± 0.2	± 0.3	± 0.5°	2
> 30 – 60	± 0.3	± 0.4	± 0.5°	2
> 60 – 90	± 0.4	± 0.5	± 0.5°	2.5
> 90 – 150	± 0.5	± 0.5	± 0.5°	2.5
> 150 – 180	± 0.7	± 0.7	± 0.5°	3
> 180 and diagonal < 305	± 1.0	± 1.0	± 0.5°	4

Chamfer diameter (mm)	Safety chamfer (mm)
> 5 – 18	0.3
> 18 – 90	0.5
> 90 – 110	0.7
> 110	1.0



The variation of the above safety chamfer is ± 50%

Processing allowance for finished products:

- Molded prisms/Molded plates
  Add 1 – 1.5 mm all round
  Base 2 – 3 mm
- Molded blanks
  Ø ≤ 30 mm add 0.75 mm all round
  Ø > 30 mm add 0.75 – 1 mm all round

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