

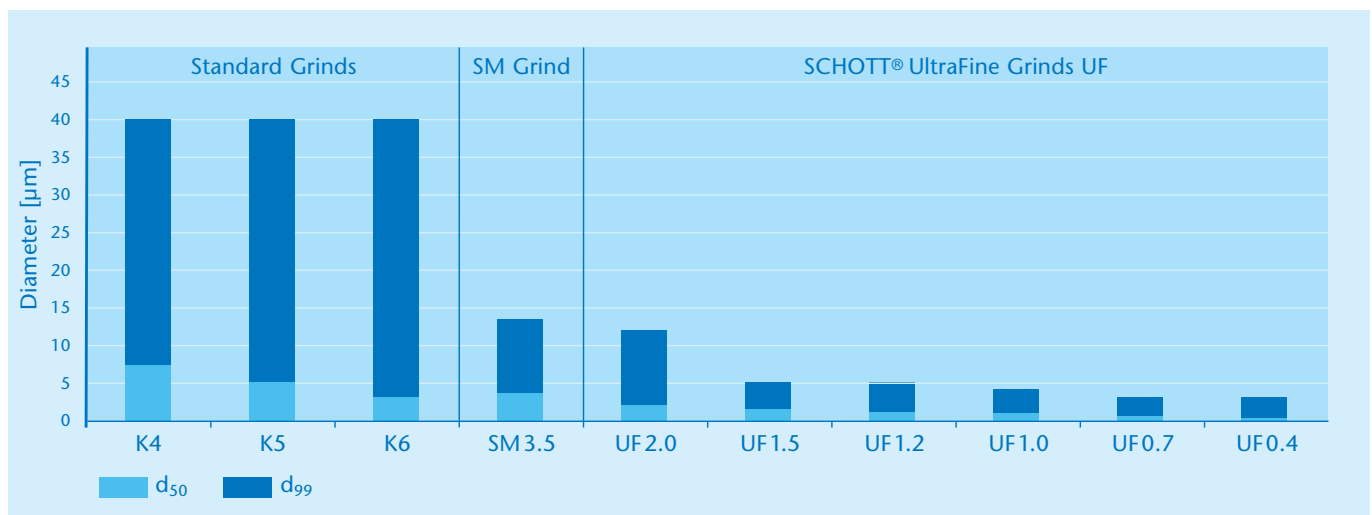
# SCHOTT® DentalGlass | Inert

## Grain Sizes

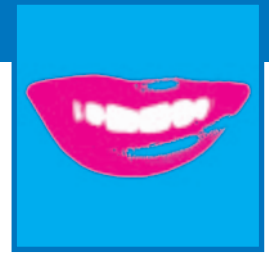
To allow you to create the perfect filler mix for your material we offer our glasses in a variety of grain sizes. All our inert dental glasses can be supplied to you in grain sizes down to 0.4  $\mu\text{m}$  ( $d_{50}$ ).

Type	Description	Size	Grain size		Approx. Surface [m <sup>2</sup> /g]
			$d_{50}$ [ $\mu\text{m}$ ]	$d_{99}$ [ $\mu\text{m}$ ]	
K	Standard grind	K1	$30 \pm 10$	$\leq 150$	-
		K2	$16 \pm 4$	$\leq 100$	-
		K3	$10 \pm 2$	$\leq 63$	-
		K4	$7 \pm 1$	$\leq 40$	-
		K5	$5 \pm 1$	$\leq 40$	0.5
		K6	$3 \pm 1$	$\leq 40$	0.6
SM	Special grind with narrow distribution	SM3.5	$3.5 \pm 1$	$\leq 13$	2
UF	Special grind with narrow distribution and extremely low abrasion level	UF2.0	$2.0 \pm 0.25$	$\leq 12$	3
		UF1.5	$1.5 \pm 0.25$	$\leq 5$	5
		UF1.2	$1.2 \pm 0.2$	$\leq 5$	7
		UF1.0	$1.0 \pm 0.2$	$\leq 4$	8
		UF0.7	$0.7 \pm 0.2$	$\leq 3$	13
		UF0.4	$0.4 \pm 0.1$	$\leq 3$	23

Grain size description  $d_{50}$  ( $d_{99}$ ): Equivalent diameter, for which the distribution sum has the value of 50% (99%).



Graphical display of  $d_{50}$  and  $d_{99}$



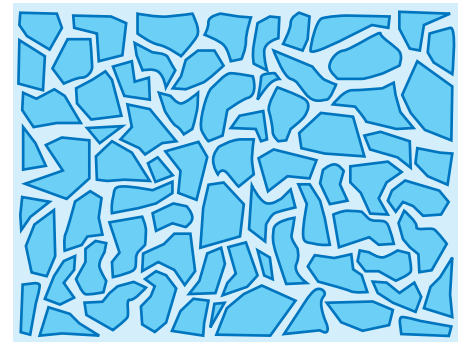
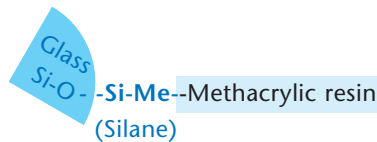
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## Grain Sizes

### Silanation – Our additional service for you:

As an additional service for you we offer to supply our inert dental glasses silanated. A silane layer will allow the bonding of the non-reactive dental glass to the resin components of your material.

**Silane:** Organic compound that chemically reacts with hydrophilic glass surface and makes it hydrophobic. The other end of the silane can chemically react with the hydrophobic resin.



■ Glass — Silane ■ Resin

### Grain sizes for Silanated Inert Dental Glasses

Type	Description	Size	Grain size		Silane addition [weight-%]
			d <sub>50</sub> [µm]	d <sub>99</sub> [µm]	
K sil	Standard grind	K5 0.5% Silane	5 ± 1	≤ 40	0.5
		K6 0.6% Silane	3 ± 1	≤ 40	0.6
SM sil	Special grind with narrow distribution, silanated	SM3.5 1.0% Silane	3.5 ± 1	≤ 13	1.0
UF sil	Special grind with narrow distribution and extremely low abrasion level, silanated	UF2.0 1.0% Silane	2.0 ± 0.25	≤ 12	1.0
		UF2.0 1.4% Silane	2.0 ± 0.25	≤ 12	1.4
		UF1.5 1.6% Silane	1.5 ± 0.25	≤ 5	1.6
		UF1.5 2.3% Silane	1.5 ± 0.25	≤ 5	2.3
		UF1.2 2.6% Silane	1.2 ± 0.2	≤ 5	2.6
		UF1.2 3.0% Silane	1.2 ± 0.2	≤ 5	3.0
		UF1.0 3.2% Silane	1.0 ± 0.2	≤ 4	3.2
		UF1.0 4.6% Silane	1.0 ± 0.2	≤ 4	4.6
		UF0.7 4.2% Silane	0.7 ± 0.2	≤ 3	4.2
		UF0.7 6.0% Silane	0.7 ± 0.2	≤ 3	6.0
		UF0.4 9.4% Silane	0.4 ± 0.1	≤ 3	9.4

The coupling agent used is  $\gamma$ -Methacryloxypropyl-tri-methoxy-Silane. Stated percentage of silane addition:  $x$  wt % of unhydrolised silane +  $(100-x)$  wt % of powder = 100 wt % of batch.

### For more information:

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 glass made of ideas

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