

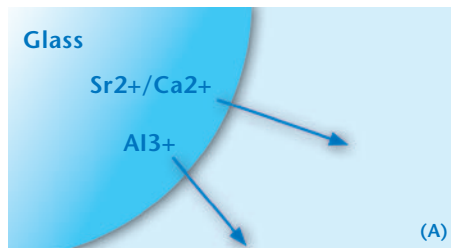


# SCHOTT® DentalGlass | Reactive (Ionomer)

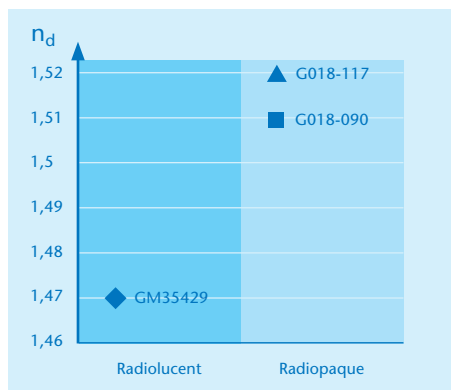
## Product Information

SCHOTT has developed three high-fluoride glasses especially for your glass ionomer cements, compomers and resin reinforced cements. These special glass materials have been optimized in order to increase their chemical reactivity and leakage of ions such as calcium, strontium and/or aluminum.

## Description



Organic acid – unlinked (A) and linked (B) (cured) by ions out of the glass



Reactive glasses with their refractive indices

## Advantages

### SCHOTT® UltraFine: A patented processing technology

- Reactive glasses with the highest transparency available for this class of glasses
- Grain sizes in coarse K-grinds and UltraFine grinds

### Expertise in special glass technology

- The compositions of SCHOTT reactive dental glass materials are formulated to contain a high fluoride content. This enables you to offer quick curing and long-term fluoride release for your material.
- Two radiopaque glasses and one standard calcium glass are available as part of our reactive glass materials product range.
- Refractive indices range from 1.47 to 1.51.
- Two of the glasses contain zinc to achieve an additional bacteriostatic effect.

## Materials Data:

		GM35429	G018-117	G018-090
Expansion coefficient (-30/+70 °C)	10-6/K	10	7	7
Index of refraction n <sub>d</sub>		1.47	1.51	1.50
Density	g/cm <sup>3</sup>	2.6	3.1	3.1
Transformation temperature (ISO7884-8)	°C	430	512	505
Radiopacity (acc.ISO 4049) as thickness of aluminium equal to 2-mm thick glass material	mm	Approx. 1 (50%)	Approx. 5 (250%)	Approx. 5 (250%)
Composition (approx. values) [weight-%]	SiO <sub>2</sub>	30	30	30
	SrO	-	20	20
	CaO	10	-	-
	Al <sub>2</sub> O <sub>3</sub>	30	20	20
	F	15	15	20
	ZnO	-	10	10
	P <sub>2</sub> O <sub>5</sub>	< 10	< 5	< 5
	Na <sub>2</sub> O	< 10	< 5	< 5

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## Grain sizes for reactive ionomer glasses

Type	Description	Size	Grain size		Approx. Surface [m <sup>2</sup> /g]
			d <sub>50</sub> [µm]	d <sub>99</sub> [µm]	
K	Standard grind	K1	30 ± 10	≤ 150	-
		K2	16 ± 4	≤ 100	-
		K3	10 ± 2	≤ 63	-
		K4	7 ± 1	≤ 40	-
		K5	5 ± 1	≤ 40	0.5
		K6	3 ± 1	≤ 40	0.6
UF	Special grind with narrow distribution and extremely low abrasion level	UF2.0	2.0 ± 0.25	≤ 12	3
		UF1.5	1.5 ± 0.25	≤ 5	5
		UF1.2	1.2 ± 0.2	≤ 5	7
		UF1.0	1.0 ± 0.2	≤ 4	8
		Additionally for G018-117 and G018-090:	UF0.7	0.7 ± 0.2	≤ 3

Grain size description d<sub>50</sub> (d<sub>99</sub>): Equivalent diameter, for which the distribution sum has the value of 50% (99%).

## For G018-090 and G018-117 we also offer to silanate the powders

Type	Description	Size	Grain size		Silane addition [weight-%]
			d <sub>50</sub> [µm]	d <sub>99</sub> [µm]	
K sil	Standard grind, silanated	K5 0.5%Silane	5 ± 1	≤ 40	0.5
		K6 0.6%Silane	3 ± 1	≤ 40	0.6
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	

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

## For more information:

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