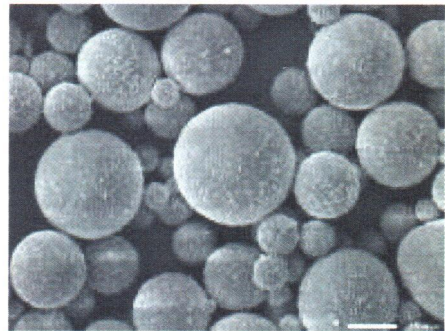


EXCELICA®

High-purity synthetic spherical silica

EXCELICA is the low- α -ray high-purity synthetic spherical fused silica from silicon tetrachloride in the gas phase reaction.

There are several grades from 3 to 40 microns in the average particle size. Moreover, there are several rough grain cutting points.



Features

High purity

Because we use the high purity synthetic raw materials.

High insulation

Because of its high purity.

High sphericity

Because it is manufactured with our unique synthetic fusing method.

Applications

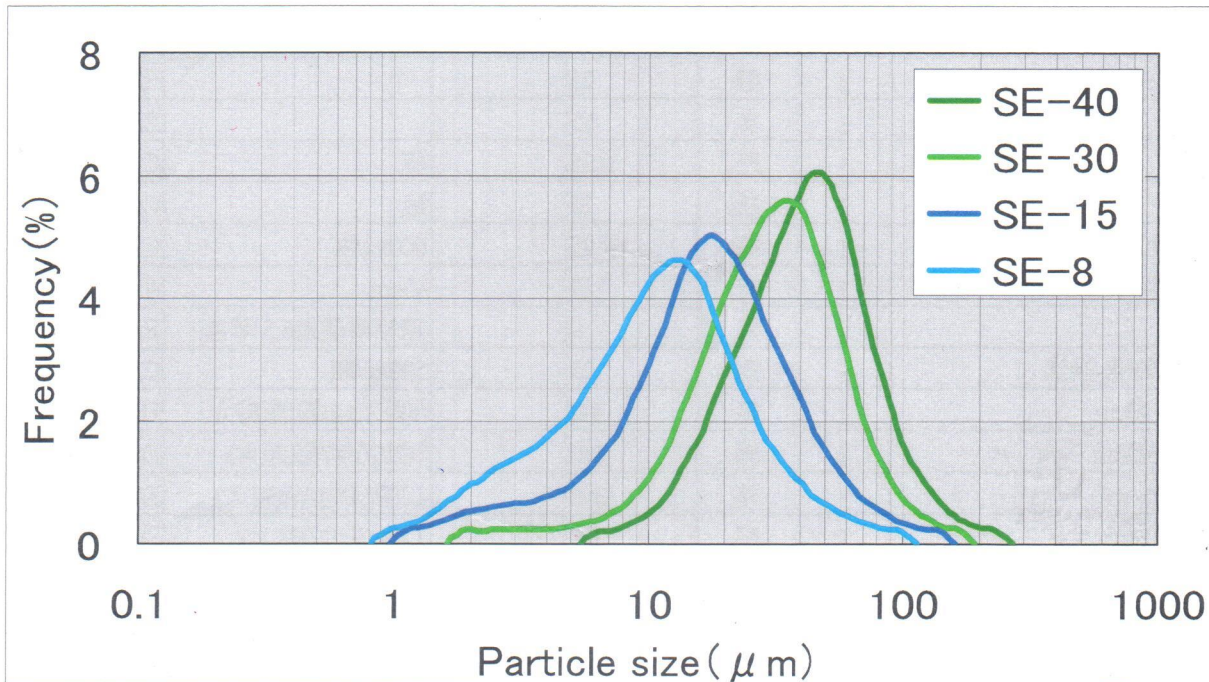
- Solid/Liquid encapsulant
- Insulation layer for PCB
- Precise adhesive/bonding paste
- Transparent quartz material



Standard grade & Cut grade

Grade	SE-8	SE-15	SE-30	SE-40	SE-15K	SE-30K	SE-40C
Average particle size (μm)	10	17	30	38	16	25	36
Specific surface area (m^2/g)	1.5	1.0	0.7	0.6	1.0	0.8	0.6
Particle size distribution (wet sieve)	$\geq 150 \mu\text{m}$ (%)	≤ 0.01	≤ 0.01	≤ 0.01	≤ 0.01	≤ 0.01	≤ 0.01
	106~150 μm (%)	≤ 0.01	≤ 0.01	≤ 0.01	≤ 0.01	≤ 0.01	≤ 0.01
	75~106 μm (%)	0.1	0.1	0.5	4.0	≤ 0.01	≤ 0.01
	45~75 μm (%)	1	2	12	25	1	5
	$\leq 45 \mu\text{m}$ (%)	99	98	87	71	99	95
Moisture content (%)	0.02	0.02	0.01	0.01	0.02	0.01	0.01
pH	5.8	5.8	5.8	5.8	5.8	5.8	5.8
Electric conductivity ($\mu\text{S}/\text{cm}$)	0.9	0.9	1.0	1.0	1.0	1.0	1.0
Impurity	Fe(ppm)	0.3	0.5	1.0	5.0	0.5	1.0
	Al(ppm)	0.1	0.1	0.1	0.2	0.1	0.1
	U (ppb)	≤ 0.1	≤ 0.1	≤ 0.1	≤ 0.1	≤ 0.1	≤ 0.1
	Na^+ (ppm)	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1
	Cl^- (ppm)	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1
Cutting point (μm)	104			54	54	77	

Particle size distribution of standard grade (Microtrac MT-3300EX2)

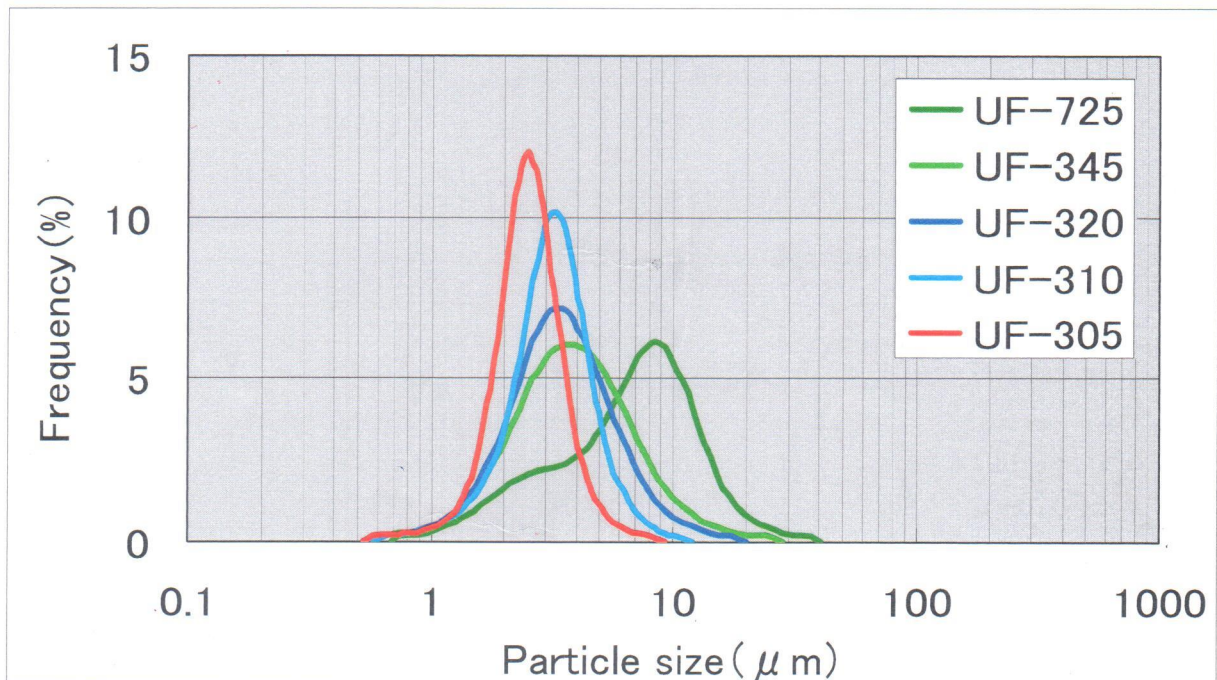


■ The table above shows typical data of EXCELICA and doesn't provide any guarantee.

Fine cut grade

Grade		UF-305	UF-310	UF-320	UF345	UF-725
Average particle size (μm)		2.7	3.0	3.5	3.5	7.0
Specific surface area (m^2/g)		2.1	2.0	1.6	1.6	1.6
Particle size distribution (wet sieve)	$\geq 45 \mu\text{m}(\%)$	0.00	0.00	0.00	0.01	0.00
	$\geq 25 \mu\text{m}(\%)$	0.00	0.00	0.00	0.5	0.01
	$\geq 20 \mu\text{m}(\%)$	0.00	0.00	0.00	-	-
	$\geq 10 \mu\text{m}(\%)$	0.00	0.01	0.10	-	-
	$\geq 5 \mu\text{m}(\%)$	0.03	10	-	-	-
Moisture content (%)		0.02	0.02	0.02	0.02	0.02
pH		5.8	5.8	5.8	5.8	5.8
Electric conductivity ($\mu\text{S}/\text{cm}$)		1.2	1.2	1.2	1.2	1.2
Impurity	Fe(ppm)	7.0	6.0	6.0	6.0	1.0
	Al(ppm)	0.5	0.5	0.5	0.5	0.1
	U (ppb)	≤ 0.1	≤ 0.1	≤ 0.1	≤ 0.1	≤ 0.1
	Na ⁺ (ppm)	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1
	Cl ⁻ (ppm)	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1
Cutting point (μm)		5	10	20	45	25

Particle size distribution of fine cut grade (Microtrac MT-3300EX2)



■ The table above shows typical data of EXCELICA and doesn't provide any guarantee.



Grade list

Standard grade	Standard grades for solid/ liquid encapsulants etc.
Cut grade	Rough grain cut grades for liquid encapsulants etc.
Fine cut grade	Rough grain fine cut grades for under-fill materials etc.

		Average particle size (micron)					
		3	7	10	17	30	40
Rough grain cutting point (micron)	104			SE-8	SE-15	SE-30	SE-40
	77						SE-40C
	54				SE-15K	SE-30K	
	45	UF-345					
	25		UF-725				
	20	UF-320					
	10	UF-310					
	5	UF-305					

Caution



- ※Refer to the Material Safety Data Sheet (MSDS) for this product for important safety information.
- ※Avoid continuous or excessive inhalation of this product. Wear dust masks designed to block fine particles.
- ※This product may generate static electrical charges during mixing, sliding, pouring or transport.
All equipment must be adequately grounded during work involving inflammable or explosive substances.
Take all appropriate safety precautions to prevent accidents.
- ※Store in a dry environment to maintain the purity and characteristics.

TOKUYAMA Corporation
Silica & Derivative Sales Department

<http://www.tokuyama.co.jp>



4/4