CRYSTALLINE SILICA FREE
fibreC – glassfibre reinforced concrete

RIEDER

WHAT IS CRYSTALLINE SILICA?

CRYSTALLINE SILICA IS CARCINOGENIC

Crystalline silica in form of quartz / cristobalite / tridymite (aerodynamic particle diameter < 12 µm) is classified as carcinogen when inhaled.

DANGER FOR CONSTRUCTION WORKERS

Exposure to respirable crystalline silica (RCS) can occur during common construction tasks, such as chipping, cutting, drilling, and grinding materials. If high quantities are inhaled on a regular basis over many years, there is a potential risk of a lung disease known as silicosis, followed in severe cases by lung cancer.[1)]

PERMISSIBLE EXPOSURE LIMIT (PEL)

over an 8-hour shift:
EU: up to 100 µg per cubic meter[2)] of air
GERMANY: 50 µg per cubic meter of air[3)]
USA: 50 µg per cubic meter of air[4)]

DANGER WHEN PROCESSING FIBRE CEMENT AND UHPC BOARDS

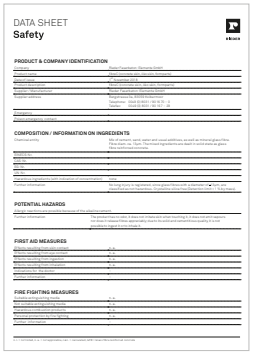
2 Mio. workers are exposed to RCS, 1/3 exposed to more than limit[4)]. Processing fibre cement or UHPC boards can cause dust containing silica! After cutting of approx. 20 m or 65 ft of these panels the daily limit can be reached. If you can't use a silica substitute personal protective equipment is highly recommended![4)]

CHECK YOUR LOCAL PERMISSIBLE EXPOSURE LIMIT[2)4)] AND ALWAYS ASK FOR MATERIAL SAFETY DATA SHEET!

fibreC
CRYSTALLINE SILICA FREE

Crystalline silica is not detectable[7)] in fibreC!

- Crystalline silica free policy since foundation of Rieder for all products made of fibreC glassfibre reinforced concrete such as concrete skin, öko skin and formparts
- Crystalline silica content of fibreC is below detection limit[6)7)]
- Tests of cementitious materials and aggregates (crushed limestone) show no crystalline silica[6)]


DATA SHEET
Safety

MSDS Material Safety Data Sheet

	UHPC I	UHPC II	fibreC (as in concrete skin, öko skin, formparts)
COMPRESSIVE STRENGTH	18,000 psi / 124.1 MPa	18,000 psi / 124.1 MPa	12,320 – 14,500 psi / /84.8 - 100.0 MPa
FLEXURAL STRENGTH	1,700 psi / 11.7 MPa	6,895 psi / 47.5 MPa	4,001 psi / 27.6 MPa
FREEZE THAW RESISTANCE	100% strength retention	97%	97%
DENSITY	145 lb/ft³ / 2,323 kg/m³	137.1 lb/ft³ / 2,200 kg/m³	124.6 - 151.1 lb/ft³ / 2,000 – 2,420 kg/m³
TOTAL POROSITY	4.60%	3.90%	N/A
ASTM E84 FLAME SPREAD	0	0	pass
ASTM E84 SMOKE DEVELOPED	0	5	pass
FIRE RATING CLASS	A	A	A
CRYSTALLINE SILICA CONTENT	46.1% by mass	43.0% by mass	not detectable[7)]
COUNTRY OF MANUFACTURE	USA	USA	Austria/Germany

1) HSE Health and Safety Executive: http://www.hse.gov.uk/quarries/silica.htm
2) IFA Institut für Arbeitsschutz: GESTIS International Limit Values for Silica, respirable crystalline https://limitvalue.ifa.dguv.de/WebForm_ueliste2.aspx
3) IFA Institut für Arbeitsschutz: https://www.dguv.de/ifa/fachinfos/occupational-exposure-limit-values/verbindliche-arbeitsplatzgrenzwerte-der-eu-kommission/index.jsp
4) OSHA Occupational Safety and Health Administration: Fact Sheet Respirable Crystalline Silica Standard for Construction 12/2017: https://www.osha.gov/Publications/OSHA3681.pdf
5) Abodo Health & Transparency: The Dangers of Silica Dust – Fibre Cement Board Products https://www.abodo.co.nz/resources/articles/the-dangers-of-silica-dust-fibre-cement-board-products
6) Investigations at the Institute for Occupational Safety and Health of the German Social Accident Insurance (IFA) and at the Institute of Building Materials Research (ibac) of RWTH Aachen University
7) Detection limit: 1% by mass