sgl carbon

Binder+ – 3D-reinforcement solutions

An acrylic fiber that binds mortar mixture components, creating a highly cohesive 3-dimensional network with enhanced mechanical performance and durability.

The use of Binder+ fiber in plaster and cement matrices provides a solution to overcome common problems resulting from curing (water evaporation) these materials.

Properties

Strength without brittleness

Strongly fiber-bound 3D structure and cohesive action of Binder+ allowing:

- Tensile strength in the cement matrix due to high elastic modulus of the fiber
- Crack and micro-crack prevention during “green phase” (prevents plastic shrinkage)
- Effective bridge mechanism provided by the use of fibers with the optimal aspect ratio (a very wide range of length-diameter ratios are available)
- Chemical and mechanical adherence to the cement matrix

Thermal and chemical resistance

PAN fiber’s high resistance to most chemical and physical agents provides a solution for durable reinforcement.

- Resistance to outdoor exposure (no rust or UV alterations)
- Resistance to the growth of mildew, fungi, etc.
- Resistance to cement alkalinity, acids and organic solvents
- Thermal resistance
- Long term stability

Applications

- Industrial mortars
- Shot concrete
- Floor screed
- Repair mortar
- Stucco
- Plaster
- Fine graded materials

Recommended usage conditions of Binder+
Binder+ was especially designed to allow easy and convenient handling. The special finish provides excellent dispersion in aqueous cement mixtures. Binder+ fiber is supplied in small PE or hydro-soluble bags (0.25 – 1.5 kg) and big bags (10 – 15 kg).

Reference dosing

Material	L62
Mortars, renders, plasters	0.10 – 0.15 % total mass of the mixture
Concrete	450 – 550 g/m³

Material data of Binder+

Typical properties	Units				L62
Fiber count	dtex	0.9	2.5	6.7	17
Cut length*	mm	4, 6, 8, 12, 24	4, 6, 8, 12, 24	4, 6, 8, 12, 24	4, 6, 8, 12, 24
Nominal diameter	µm	10	16	27	43
Number of fibers per g (cut: 6mm)		1851900	666700	248800	98050
Tenacity min.	cN/tex / g/dtex	60 / 6.0	50 / 5.1	46 / 4.5	38 / 3.8
Tensile strength min.	MPa	690	580	520	440
Elongation	%	14 – 18	14 – 18	14 – 18	16 – 20
Elastic modulus	cN/tex / GPa	900 / 10.6	890 / 10.4	840 / 9.8	690 / 8.1
Appearance		Staple fiber in bundles			
Color		Raw white	Raw white	Raw white	Raw white
Cross-Section		Kidney shaped	Kidney shaped	Kidney shaped	Kidney shaped
Lustre		Bright	Bright	Bright	Bright
Density	g/cm³	1.17	1.17	1.17	1.17
Residual solvent DMAC	%	<0.3	<0.3	<0.3	<0.3
Heat resistance		Good short-term processing temperature up to 220 °C			
Acid resistance		Good	Good	Good	Good
Alkali resistance		Good	Good	Good	Good
Hydrolysis resistance		Good	Good	Good	Good
Application		Industrial mortars Shot concrete Floor screed	Industrial mortars Shot concrete Floor screed	Repair mortar Stucco Plaster Fine graded materials	Mortar Concrete

* Other cut lengths available on demand

Carbon Fibers | SGL Composites S.A.
marketing.pt@sglcarbon.com
www.sglcarbon.com

07 2021/0 1NÄ Printed in Germany