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solidian ANTICRACK Q43-CCE-21 (F01R01)

Symmetrical, bidirectional reinforcement mesh (type Q) made of media-resistant carbon fiber reinforced polymer (CFRP) with sanded surface for the reinforcement of concrete components

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Material

Fiber material	C (Carbon)	
Impregnation material	E (Epoxy resin)	
Color	black	
Surface finish	rough (sanded)	
	XD3	Chlorides, except seawater
Chemical resistance of the reinforcement in relation to the exposure classes in accordance with EN 206-1	XS3	Chlorides from seawater
	XA3	Chemical attack

Geo	metry and structure		Unit	Value	Standard
	Directions of the file or streeds	longitudinal	roj	0	
	Directions of the fiber strands	transversal	[°] —	90	_
	Manage under a fifth an attracted wighth	longitudinal	[100.00]	2,8	
) h	Mean value of fiber strand width	transversal	- [mm]	3,5	_
	Maan value of fiber strand bright	longitudinal		2,2	
V	Mean value of fiber strand height	transversal	- [mm]	1,8	
	Nominal diameter	longitudinal		1,67	
nm	Nominal diameter	transversal	- [mm]	1,67	
\	Nominal cross-sectional area per fiber strand	longitudinal [mm²]	[mm2]	2,2	— ISO 10406-1
Anm	Nominal cross-sectional area per liber strand	transversal		2,2	
	nm Nominal cross-sectional area per meter	longitudinal	– [mm²/m] –––	105	
nm		transversal	[mm/m]	105	
\	Fiber cross sectional area per fiber strand	longitudinal	- [mm²]	0,91	
A _{f,nm}	Fiber cross-sectional area per fiber strand	transversal	[[[]]]	0,91	
	Fiber cross sectional area per meter	longitudinal	– [mm²/m] –	43	
f,nm	Fiber cross-sectional area per meter	transversal		43	_
	Mash spacing	longitudinal	- [mm]	21	
	Mesh spacing	transversal	- [mm]	21	
	Clear spacing of the fiber strands	longitudinal	- [mm]	17,8	
s ₁ Clear spacing of the fiber strands	clear spacing of the liber strands	transversal	- [mm]	18,6	
G	Mesh height (average value of the maximum height)	[mm]	3,7	-	
	Weight per unit area of the non-metallic reinforcement		[g/m²]	717	-
ü	Degree of coverage of the mesh		[%]	27,2	-
min	Minimum permissible radius of curvature		[mm]	400	

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viate	erial properties		Unit	Value	Standard
)	Bulk density of the fiber composite material		[g/cm³]	1,49	ISO 1183-1
Х	Coefficient of thermal expansion	along the fiber	[10 ⁻⁶ 1/K]	0,5	-
g0	Glass transition temperature (DMA)		[°C]	≥ 110	DIN 65583
	Recommended operating temperature range		[°C]	-20 to +80	-
	Building material class components ¹⁾		[-]	A2, non-combustible	DIN 4102-1
	Building material class reinforcement mesh		[-]	E, normally flammable	EN 13501-1
Mec	hanical properties		Unit	Value	Standard
	Characteristic short-term tensile strength related to	longitudinal	- [MPa]	1300	ISO 10406-1
nm,k	the nominal cross-sectional area	transversal	[IVIP d]	1300	130 10400-
	Young's modulus related to the nominal cross-sec-	longitudinal	[MPa]	94000	ISO 10406-1
nm	tion	transversal	[IVIPa]	94000	130 10406-
	Mean short-time tensile strength related to the	longitudinal		≥ 4290	ISO 10406-1
f _{f,nm,m}		transversal	[MPa]	≥ 4290	
	Characteristic short-term tensile strength related to the fiber cross-sectional area	longitudinal	- [MPa]	≥ 3200	10 10 10 10 5
f _{f,nm,k}		transversal		≥ 3200	ISO 10406-
	Mean Young's modulus related to the fiber cross-sectional area	longitudinal		≥ 235000	16.0.10.406
f,nm,m		transversal	- [MPa]	≥ 235000	ISO 10406-
	Characteristic elongation at failure under tensile	longitudinal	FO/ 1	≥ 13,8	100 10 400
nm,uk	load of the non-metallic reinforcement	transversal	[‰]	≥ 13,8	ISO 10406-1
	Characteristic tensile force transmission of the non-	longitudinal	- [kN/m]	136	· ISO 10406-7
nm,k	metallic reinforcement per m width	transversal		136	
Furti	her key values		Unit	Value	Standard
dg	Recommended maximum grain size in concrete		[mm]	5	-
Stan	dard goods variety		Unit	Value	Tolerance
tio el e		Length	[ma]	6,0	± 16 mm
ingle	mesh	Width	[m]	2,30	± 12 mm
		Length	[ma]	≤ 130,0	-
Roll in CARGO SYSTEM -		Width	[m]	2,30	± 12 mm
) - II		Length	F. 7	≤ 250,0	-
Roll		Width	[m]	3,0	± 12 mm

The CARGO SYSTEM is a stacking and transport rack with unrolling device for our reinforcement mesh.

Transport and storage

Non-metallic reinforcements from solidian GmbH must not be damaged during transportation, storage, processing and installation and must not be exposed to temperatures higher than 80°C. They must be stored dry, protected from the weather and without touching the ground. They must be protected from UV radiation and moisture until concreting and be free from bond-reducing impurities (e.g. grease, soil, loose concrete residues).

¹⁾ Building material class for components from a component thickness of 30 mm with a minimum concrete cover of 14 mm or for components with a component thickness of 30 mm and a single layer of centrally arranged reinforcement mesh.

 $^{2)}~~d_g$ = 8 mm possible depending on the manufacturing process.

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Measurement

Specified values were determined on the product itself. Deviating properties may occur in the structural component or during processing. We recommend checking the values by suitable structural component tests with the concrete formulation used in each case.

Tests

As part of our in-house production control, two test units with 6 tensile tests each per reinforcement direction are carried out for each production order for quality assurance purposes, from which the characteristic short-term tensile strength is determined. All other measured values are determined as part of a comprehensive product gualification and are not subject to continuous control.

The described tensile tests per production order are included in the sales price. If you need an extended production control for your construction project, please contact us. We will be happy to provide you with a non-binding quotation for additional production-related tests.

Country-specific regulations

For the use of the product, the respective national regulations at the place of use apply, in Germany for example the building regulations of the federal states, and the technical provisions based on these regulations.

The design is generally carried out in accordance with the applicable standards for reinforced concrete components, whereby adjustments must be made for fiber composite reinforcements if applicable standards, guidelines (e.g. guideline for Germany "Concrete components with non-metallic reinforcement" of the German Committee for Reinforced Concrete (DAfStb) and the co-applicable standards cited in the guideline) etc. do not exist for reinforcements made of fiber reinforced polymer materials. Accordingly, the respective national standards and regulations must be taken into account in the design.

Processing information

All work must only be carried out by trained personnel. Damaged fiber bundles (resin spalling, brittle areas, etc.) must not be installed, as the specified load-bearing capacity cannot be guaranteed. The specified values of the product only apply when used as intended.

For further information, please refer to the current Technical Information for our solidian reinforcement products.

Ecology and health protection

REGULATION (EC) NO. 1907/2006 - REACH.

This product is an article as defined in Article 3 of Regulation (EC) No 1907/2006 (REACH). It does not contain substances that are released from the article during normal use. A safety data sheet according to Article 31 of the same regulation is not required to place this product on the market, to transport it or to use it. For safe use, follow the instructions from this data sheet. To our current knowledge, this product does not contain any SVHC (Substances of Very High Concern) according to Annex XIV of the REACH Regulation or substances published on the Candidate List by the European Chemicals Agency at concentrations above 0,1% (w/w).

Industrial safety and health

The currently valid legal regulations on occupational health and safety must be observed during all transportation activities. Protective measures, such as wearing cut-resistant gloves, safety goggles and a dust mask, must be observed when working with cutting equipment. The specific handling of fiber reinforced polymers should be based on the respective national technical regulations.

Legal information

The above information is based on our knowledge and experience under normal circumstances, provided that the product has been transported, stored and used or processed properly and in accordance with the information in this product data sheet and the Technical Information for our solidian reinforcement products. The work results that can be achieved with our products depend in particular on their use and processing. The suitability of the product for the specific application must be checked in advance on your own responsibility.

Since non-metallic reinforcements are not yet regulated by building authorities in most countries, planners, specialist planners, building authorities, structural engineers, experts, etc. must be consulted for load-bearing components and countryspecific regulations must be observed.

We reserve the right to make changes to the product specifications. Third-party property rights must be observed. In all other respects, our respective terms and conditions of sale and delivery apply. The latest technical product data sheet at the time of purchase of our products shall apply.



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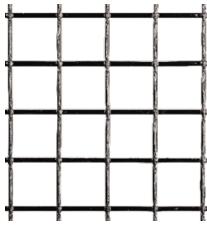




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solidian ANTICRACK Q47-CCE-38 (F01R01)

Symmetrical, bidirectional reinforcement mesh (type Q) made of media-resistant carbon fiber reinforced polymer (CFRP) with sanded surface for the reinforcement of concrete components



Material

Fiber material	C (Carbon)	
Impregnation material	E (Epoxy resin)	
Color	black	
Surface finish	rough (sanded)	
	XD3	Chlorides, except seawater
Chemical resistance of the reinforcement in relation to the exposure classes in accordance with EN 206-1	XS3	Chlorides from seawater
	XA3	Chemical attack

metry and structure		Unit	Value	Standard
Directions of the filese stands	longitudinal	F01	0	
Directions of the liber strands	transversal		90	_
Maan value of fileer strend width	longitudinal	[100.00]	3,9	
Mean value of liber strand width	transversal		4,6	_
Maan value of fiber strand beight	longitudinal	_ [mm]	3,4	
Mean value of liber strand height	transversal	[mm]	3,1	
Nominal diameter	longitudinal	_ [mm]	2,37	
Nominal diameter	transversal		2,37	
Nominal cross sectional area par fiber strand	longitudinal	- [pop2]	4,4	— ISO 10406-1
Nominal cross-sectional area per liber strand	transversal	[[1]]]	4,4	
Mominal cross-sectional area per meter	longitudinal	- [no no 2 / no]	116	
	transversal		116	
Fiber cross sectional area per fiber strand	longitudinal	- [pape ²]	1,81	
Fiber cross-sectional area per liber strand	transversal		1,81	
Fiber cross socienal area par motor	longitudinal	- [no no 2 / no]	47	
Fiber cross-sectional area per meter	transversal		47	
Mash spacing	longitudinal	_ [mm]	38	
Mesh spacing	transversal		38	
Clear spacing of the fiber strands	longitudinal	_ [mm]	33,6	
Clear spacing of the liber strands	transversal		34,7	
Mesh height (average value of the maximum height)	[mm]	5,5	-	
Weight per unit area of the non-metallic reinforcement		[g/m²]	722	
Degree of coverage of the mesh		[%]	20,9	
Minimum permissible radius of curvature		[mm]	400	_
	Directions of the fiber strands • Mean value of fiber strand width • Mean value of fiber strand height • Nominal diameter • Nominal cross-sectional area per fiber strand • Nominal cross-sectional area per meter • Fiber cross-sectional area per meter • Fiber cross-sectional area per meter • Clear spacing • Mesh height (average value of the maximum height) • Weight per unit area of the non-metallic reinforceme • Degree of coverage of the mesh •	Directions of the fiber strandslongitudinal transversalMean value of fiber strand widthlongitudinal transversalMean value of fiber strand heightlongitudinal transversalMean value of fiber strand heightlongitudinal transversalNominal diameterlongitudinal transversalNominal cross-sectional area per fiber strandlongitudinal transversalNominal cross-sectional area per meterlongitudinal transversalNominal cross-sectional area per fiber strandlongitudinal transversalFiber cross-sectional area per fiber strandlongitudinal transversalFiber cross-sectional area per meterlongitudinal transversalFiber cross-sectional area per meterlongitudinal transversalMesh spacinglongitudinal transversalMesh spacing of the fiber strandslongitudinal transversalClear spacing of the fiber strandslongitudinal transversalMesh height (average value of the maximum height)weight per unit area of the non-metallic reinforcementDegree of coverage of the meshlongitudinal transversal	Directions of the fiber strandsIongitudinal transversal[°]Mean value of fiber strand widthIongitudinal transversal[mm]Mean value of fiber strand heightIongitudinal transversal[mm]Mean value of fiber strand heightIongitudinal transversal[mm]Nominal diameterIongitudinal transversal[mm]Nominal cross-sectional area per fiber strandIongitudinal transversal[mm²]Nominal cross-sectional area per meterIongitudinal transversal[mm²/m]Fiber cross-sectional area per fiber strandIongitudinal transversal[mm²/m]Fiber cross-sectional area per meterIongitudinal transversal[mm²/m]Fiber cross-sectional area per meterIongitudinal transversal[mm²/m]Mesh spacingIongitudinal transversal[mm]—Clear spacing of the fiber strandsIongitudinal transversal[mm]—Mesh height (average value of the maximum height)[mm]—Weight per unit area of the non-metallic reinforcement[m][m]Degree of coverage of the mesh[%][%]	$\begin{array}{c c c c } \label{eq:phi} \begin{tabular}{ c c } \label{eq:phi} \end{tabular} \\ \hline \begin{tabular}{ c c } \label{eq:phi} \end{tabular} \end{tabular} \\ \hline \begin{tabular}{ c c } \label{eq:phi} \end{tabular} \\ \hline \begin{tabular}{ c c } \label{eq:phi} \end{tabular} \\ \hline \begin{tabular}{ c c } \label{eq:phi} \end{tabular} \end{tabular} \\ \hline \begin{tabular}{ c c } \label{eq:phi} \end{tabular} \\ \hline \begin{tabular}{ c c } \label{eq:phi} \end{tabular} \end{tabular} \end{tabular} \\ \hline \begin{tabular}{ c c } \label{eq:phi} \end{tabular} \end{tabular} \end{tabular} \end{tabular} \end{tabular} \\ \hline \begin{tabular}{ c c } \label{eq:phi} \end{tabular} $

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viate	erial properties		Unit	Value	Standard
)	Bulk density of the fiber composite material		[g/cm³]	1,42	ISO 1183-1
Х	Coefficient of thermal expansion	along the fiber	[10 ⁻⁶ 1/K]	0,5	-
Г _{д0}	Glass transition temperature (DMA)		[°C]	≥ 110	DIN 65583
	Recommended operating temperature range		[°C]	-20 to +80	-
	Building material class components ¹⁾		[-]	A2, non-combustible	DIN 4102-1
	Building material class reinforcement mesh		[-]	E, normally flammable	EN 13501-1
Mec	hanical properties		Unit	Value	Standard
nm,k	Characteristic short-term tensile strength related to	longitudinal	- [MPa]	1250	ISO 10406-1
nm,k	the nominal cross-sectional area	transversal	[IVIF a]	1250	130 10400-
	Young's modulus related to the nominal cross-sec-	longitudinal	[MPa]	99000	
nm	tion	transversal	[IVIPd]	99000	ISO 10406-1
	Mean short-time tensile strength related to the	longitudinal		≥ 4070	ISO 10406-1
f _{f,nm,m}	fiber cross-sectional area	transversal	[MPa]	≥ 4070	
	Characteristic short-term tensile strength related to the fiber cross-sectional area	longitudinal	- [MPa]	≥ 3039	10 10 10 1
f,nm,k		transversal		≥ 3039	ISO 10406-
	Mean Young's modulus related to the fiber cross-sectional area	longitudinal		≥ 247000	100 10 100
f,nm,m		transversal	[MPa]	≥ 247000	ISO 10406-
	Characteristic elongation at failure under tensile	longitudinal	50/ 1	≥ 12,6	100 10 100
nm,uk	load of the non-metallic reinforcement	transversal	[‰]	≥ 12,6	ISO 10406-1
_	Characteristic tensile force transmission of the non-	longitudinal	- [kN/m]	145	100 10 100
nm,k	metallic reinforcement per m width	transversal		145	ISO 10406-1
Furti	her key values		Unit	Value	Standard
d _g	Recommended maximum grain size in concrete ²⁾		[mm]	8	-
Stan	dard goods variety		Unit	Value	Tolerance
tio el e		Length	[ma]	6,0	± 16 mm
ingle	mesh	Width	[m]	2,30	± 12 mm
		Length	[]	≤ 130,0	-
Roll in CARGO SYSTEM -		Width	[m]	2,30	± 12 mm
) - II		Length	F. 7	≤ 250,0	-
Roll		Width	[m]	3,0	± 12 mm

The CARGO SYSTEM is a stacking and transport rack with unrolling device for our reinforcement mesh.

Transport and storage

Non-metallic reinforcements from solidian GmbH must not be damaged during transportation, storage, processing and installation and must not be exposed to temperatures higher than 80°C. They must be stored dry, protected from the weather and without touching the ground. They must be protected from UV radiation and moisture until concreting and be free from bond-reducing impurities (e.g. grease, soil, loose concrete residues).

¹⁾ Building material class for components from a component thickness of 30 mm with a minimum concrete cover of 14 mm or for components with a component thickness of 30 mm and a single layer of centrally arranged reinforcement mesh.

²⁾ $d_g = 16$ mm possible depending on the manufacturing process.

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Measurement

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Tests

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We reserve the right to make changes to the product specifications. Third-party property rights must be observed. In all other respects, our respective terms and conditions of sale and delivery apply. The latest technical product data sheet at the time of purchase of our products shall apply.

Date: 08.07.2024 Version: 2407 solidian ANTICRACK Q47-CCE-38 Technical Product Data Sheet v2407.docx

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solidian ANTICRACK Q85-CCE-21 (F01R01)

Symmetrical, bidirectional reinforcement mesh (type Q) made of media-resistant carbon fiber reinforced polymer (CFRP) with sanded surface for the reinforcement of concrete components

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Material

Fiber material	C (Carbon)	┟╌┟╼┟╼┟╼┟╼┟
Impregnation material	E (Epoxy resin)	
Color	black	
Surface finish	rough (sanded)	
	XD3	Chlorides, except seawater
Chemical resistance of the reinforcement in relation to the exposure classes in accordance with EN 206-1	XS3	Chlorides from seawater
	XA3	Chemical attack

metry and structure		Unit	Value	Standard
Directions of the file or standa	longitudinal	101	0	
Directions of the liber strands	transversal		90	_
	longitudinal	[]	3,9	
Mean value of fiber strand width	transversal	- [mm]	4,6	
	longitudinal	[]	3,4	
Mean value of fiber strand height	transversal	- [mm]	3,1	
Next all discounts a	longitudinal	[]	2,37	
Nominal diameter	transversal	- [mm]	2,37	
New York and the second s	longitudinal	r 21	4,4	— ISO 10406-
Nominal cross-sectional area per fiber strand	transversal	- [mm ⁻]	4,4	
m Nominal cross-sectional area per meter	longitudinal	5 2 / 3	210	
	transversal	- [mm²/m]	210	
Elle a construction de la construction de	longitudinal	r 21	1,81	
Fiber cross-sectional area per fiber strand	transversal	- [mm-]	1,81	
The second se	longitudinal	[85	
Fiber cross-sectional area per meter	transversal	- [mm²/m]	85	
	longitudinal	[]	21	
Mesh spacing	transversal	- [mm]	21	
	longitudinal	[]	16,9	
Clear spacing of the fiber strands	transversal	- [mm]	18,0	
Mesh height (average value of the maximum height)	[mm]	4,3	-	
Weight per unit area of the non-metallic reinforcement		[g/m²]	929	-
Degree of coverage of the mesh		[%]	33,6	-
Minimum permissible radius of curvature		[mm]	400	_
	Directions of the fiber strands - Mean value of fiber strand width - Mean value of fiber strand height - Nominal diameter - Nominal cross-sectional area per fiber strand - Nominal cross-sectional area per meter - Fiber cross-sectional area per meter - Fiber cross-sectional area per meter - Clear spacing - Mesh height (average value of the maximum height) - Weight per unit area of the non-metallic reinforceme - Degree of coverage of the mesh -	Directions of the fiber strandslongitudinal transversalMean value of fiber strand widthlongitudinal transversalMean value of fiber strand heightlongitudinal transversalMean value of fiber strand heightlongitudinal transversalNominal diameterlongitudinal transversalNominal cross-sectional area per fiber strandlongitudinal transversalNominal cross-sectional area per meterlongitudinal transversalNominal cross-sectional area per fiber strandlongitudinal transversalFiber cross-sectional area per fiber strandlongitudinal transversalFiber cross-sectional area per meterlongitudinal transversalFiber cross-sectional area per meterlongitudinal transversalMesh spacinglongitudinal transversalMesh spacing of the fiber strandslongitudinal transversalClear spacing of the fiber strandslongitudinal transversalMesh height (average value of the maximum height)weight per unit area of the non-metallic reinforcementDegree of coverage of the meshlongitudinal transversal	Iongitudinal transversal[°]Mean value of fiber strand widthIongitudinal transversal[mm]Mean value of fiber strand heightIongitudinal transversal[mm]Mean value of fiber strand heightIongitudinal transversal[mm]Nominal diameterIongitudinal transversal[mm]Nominal cross-sectional area per fiber strandIongitudinal transversal[mm²]Nominal cross-sectional area per fiber strandIongitudinal transversal[mm²]Fiber cross-sectional area per fiber strandIongitudinal transversal[mm²]Fiber cross-sectional area per meterIongitudinal transversal[mm²]Fiber cross-sectional area per meterIongitudinal transversal[mm²]Mesh spacingIongitudinal transversal[mm]—Clear spacing of the fiber strandsIongitudinal transversal[mm]—Mesh height (average value of the maximum height)[mm]—Weight per unit area of the non-metallic reinforcement[m²]—Degree of coverage of the mesh[%][m²]	$\begin{array}{c c c c } \label{eq:phi} \begin{tabular}{ c c } \label{eq:phi} \end{tabular} \\ \hline \begin{tabular}{ c c } \label{eq:phi} \end{tabular} \end{tabular} \\ \hline \begin{tabular}{ c c } \label{eq:phi} \end{tabular} \\ \hline \begin{tabular}{ c c } \label{eq:phi} \end{tabular} \\ \hline \begin{tabular}{ c c } \label{eq:phi} \end{tabular} \end{tabular} \\ \hline \begin{tabular}{ c c } \label{eq:phi} \end{tabular} \\ \hline \begin{tabular}{ c c } \label{eq:phi} \end{tabular} \end{tabular} \end{tabular} \\ \hline \begin{tabular}{ c c } \label{eq:phi} \end{tabular} \end{tabular} \end{tabular} \end{tabular} \end{tabular} \\ \hline \begin{tabular}{ c c } \label{eq:phi} \end{tabular} $

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Mate	erial properties		Unit	Value	Standard
С	Bulk density of the fiber composite material		[g/cm ³]	1,45	ISO 1183-1
Х	Coefficient of thermal expansion	along the fiber	[10 ⁻⁶ 1/K]	0,5	-
T _{g0}	Glass transition temperature (DMA)		[°C]	≥ 110	DIN 65583
	Recommended operating temperature range		[°C]	-20 to +80	-
	Building material class components ¹⁾		[-]	A2, non-combustible	DIN 4102-1
	Building material class reinforcement mesh		[-]	E, normally flammable	EN 13501-1
Mec	hanical properties		Unit	Value	Standard
nm,k	Characteristic short-term tensile strength related to	longitudinal	- [MPa]	1250	ISO 10406-1
nm,k	the nominal cross-sectional area	transversal	[IVIPa]	1250	130 10406-
-	Young's modulus related to the nominal cross-sec-	longitudinal		99000	
nm	tion	transversal	[MPa]	99000	ISO 10406-1
	Mean short-time tensile strength related to the	longitudinal		≥ 4070	ISO 10406-1
f _{f,nm,m}	fiber cross-sectional area	transversal	[MPa]	≥ 4070	
	Characteristic short-term tensile strength related to the fiber cross-sectional area	longitudinal	- [MPa]	≥ 3039	100 10 100 /
f,nm,k		transversal		≥ 3039	ISO 10406-1
	Mean Young's modulus related to the fiber cross-sectional area	longitudinal	- [MPa]	≥ 247000	
f,nm,m		transversal		≥ 247000	ISO 10406-1
	Characteristic elongation at failure under tensile	longitudinal	507.3	≥ 12,6	100 10 100
nm,uk	load of the non-metallic reinforcement	transversal	- [‰]	≥ 12,6	ISO 10406-1
_	Characteristic tensile force transmission of the non-	longitudinal	- [kN/m]	262	
nm,k	metallic reinforcement per m width	transversal		262	ISO 10406-1
Furti	her key values		Unit	Value	Standard
dg	Recommended maximum grain size in concrete ²⁾		[mm]	5	-
Stan	dard goods variety		Unit	Value	Tolerance
		Length	Onic	6,0	± 16 mm
Single	mesh	Width	- [m]	2,30	± 12 mm
		Length		≤ 130,0	-
Roll in CARGO SYSTEM		Width	[m]	2,30	± 12 mm
Roll –		Length		≤ 250,0	-
		Width	[m]	3,0	± 12 mm

The CARGO SYSTEM is a stacking and transport rack with unrolling device for our reinforcement mesh.

Transport and storage

Non-metallic reinforcements from solidian GmbH must not be damaged during transportation, storage, processing and installation and must not be exposed to temperatures higher than 80°C. They must be stored dry, protected from the weather and without touching the ground. They must be protected from UV radiation and moisture until concreting and be free from bond-reducing impurities (e.g. grease, soil, loose concrete residues).

¹⁾ Building material class for components from a component thickness of 30 mm with a minimum concrete cover of 14 mm or for components with a component thickness of 30 mm and a single layer of centrally arranged reinforcement mesh.

²⁾ $d_g = 8$ mm possible depending on the manufacturing process.

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Measurement

Specified values were determined on the product itself. Deviating properties may occur in the structural component or during processing. We recommend checking the values by suitable structural component tests with the concrete formulation used in each case.

Tests

As part of our in-house production control, two test units with 6 tensile tests each per reinforcement direction are carried out for each production order for quality assurance purposes, from which the characteristic short-term tensile strength is determined. All other measured values are determined as part of a comprehensive product gualification and are not subject to continuous control.

The described tensile tests per production order are included in the sales price. If you need an extended production control for your construction project, please contact us. We will be happy to provide you with a non-binding quotation for additional production-related tests.

Country-specific regulations

For the use of the product, the respective national regulations at the place of use apply, in Germany for example the building regulations of the federal states, and the technical provisions based on these regulations.

The design is generally carried out in accordance with the applicable standards for reinforced concrete components, whereby adjustments must be made for fiber composite reinforcements if applicable standards, guidelines (e.g. guideline for Germany "Concrete components with non-metallic reinforcement" of the German Committee for Reinforced Concrete (DAfStb) and the co-applicable standards cited in the guideline) etc. do not exist for reinforcements made of fiber reinforced polymer materials. Accordingly, the respective national standards and regulations must be taken into account in the design.

Processing information

All work must only be carried out by trained personnel. Damaged fiber bundles (resin spalling, brittle areas, etc.) must not be installed, as the specified load-bearing capacity cannot be guaranteed. The specified values of the product only apply when used as intended.

For further information, please refer to the current Technical Information for our solidian reinforcement products.

Ecology and health protection

REGULATION (EC) NO. 1907/2006 - REACH.

This product is an article as defined in Article 3 of Regulation (EC) No 1907/2006 (REACH). It does not contain substances that are released from the article during normal use. A safety data sheet according to Article 31 of the same regulation is not required to place this product on the market, to transport it or to use it. For safe use, follow the instructions from this data sheet. To our current knowledge, this product does not contain any SVHC (Substances of Very High Concern) according to Annex XIV of the REACH Regulation or substances published on the Candidate List by the European Chemicals Agency at concentrations above 0,1% (w/w).

Industrial safety and health

The currently valid legal regulations on occupational health and safety must be observed during all transportation activities. Protective measures, such as wearing cut-resistant gloves, safety goggles and a dust mask, must be observed when working with cutting equipment. The specific handling of fiber reinforced polymers should be based on the respective national technical regulations.

Legal information

The above information is based on our knowledge and experience under normal circumstances, provided that the product has been transported, stored and used or processed properly and in accordance with the information in this product data sheet and the Technical Information for our solidian reinforcement products. The work results that can be achieved with our products depend in particular on their use and processing. The suitability of the product for the specific application must be checked in advance on your own responsibility.

Since non-metallic reinforcements are not yet regulated by building authorities in most countries, planners, specialist planners, building authorities, structural engineers, experts, etc. must be consulted for load-bearing components and countryspecific regulations must be observed.

We reserve the right to make changes to the product specifications. Third-party property rights must be observed. In all other respects, our respective terms and conditions of sale and delivery apply. The latest technical product data sheet at the time of purchase of our products shall apply.



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solidian ANTICRACK Q95-CCE-38 (F01R01)

Symmetrical, bidirectional reinforcement mesh (type Q) made of media-resistant carbon fiber reinforced polymer (CFRP) with sanded surface for the reinforcement of concrete components

Material		
Fiber material	C (Carbon)	
Impregnation material	E (Epoxy resin)	
Color	black	
Surface finish	rough (sanded)	
	XD3	Chlorides, except seawater
Chemical resistance of the reinforcement in relation to the exposure classes in accordance with EN 206-1	XS3	Chlorides from seawater
	XA3	Chemical attack

Geo	metry and structure		Unit	Value	Standard
	Directions of the fiber strands	longitudinal	503	0	
		transversal	[°] —	90	
	Mean value of fiber strand width	longitudinal	[]	5,7	
þ h		transversal	- [mm]	6,2	
	Mean value of fiber strand height	longitudinal	[]	4,5	
¢∨		transversal	- [mm]	4,5	
	Nominal diameter	longitudinal	[]	3,35	
) nm		transversal	- [mm]	3,35	
٨	Nominal cross-sectional area per fiber strand	longitudinal	r 21	8,8	— ISO 10406-1
4 _{nm}		transversal	– [mm²] –	8,8	
	Nominal cross-sectional area per meter	longitudinal	r 2/ 1	232	
a _{nm}		transversal	– [mm²/m] –	232	
٨	Fiber cross-sectional area per fiber strand	longitudinal	r 21	3,62	
A _{f,nm}		transversal	– [mm²] –	3,62	
		longitudinal	[95	
a _{f,nm}	Fiber cross-sectional area per meter	transversal	– [mm²/m] –	95	
S	Mesh spacing	longitudinal	[]	38	
		transversal	- [mm]	38	
	Clear spacing of the fiber strands	longitudinal	[100.00]	32,8	
51		transversal	- [mm]	33,5	
١G	Mesh height (average value of the maximum height	[mm]	6,7	-	
]	Weight per unit area of the non-metallic reinforcement		[g/m ²]	929	-
(_ü	Degree of coverage of the mesh		[%]	30,0	_
min	Minimum permissible radius of curvature		[mm]	400	-

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Mate	erial properties		Unit	Value	Standard
р	Bulk density of the fiber composite material		[g/cm ³]	1,45	ISO 1183-1
х	Coefficient of thermal expansion	along the fiber	[10 ⁻⁶ 1/K]	0,5	-
T _{g0}	Glass transition temperature (DMA)		[°C]	≥ 110	DIN 65583
	Recommended operating temperature range		[°C]	-20 to +80	-
	Building material class components ¹⁾		[-]	A2, non-combustible	DIN 4102-1
	Building material class reinforcement mesh		[-]	E, normally flammable	EN 13501-1
Mec	hanical properties		Unit	Value	Standard
c	Characteristic short-term tensile strength related to the nominal cross-sectional area	longitudinal	- [MPa]	1200	ISO 10406-1
nm,k		transversal		1200	
_	Young's modulus related to the nominal cross-sec-	longitudinal	- [MPa]	97000	ISO 10406-1
nm		transversal		97000	
-	Mean short-time tensile strength related to the fiber cross-sectional area	longitudinal	- [MPa]	≥ 3910	ISO 10406-1
† _{f,nm,m}		transversal		≥ 3910	
-	Characteristic short-term tensile strength related to the fiber cross-sectional area	longitudinal	[MPa]	≥ 2917	ISO 10406-1
f _{f,nm,k}		transversal		≥ 2917	
E _{f,nm,m}	Mean Young's modulus related to the fiber cross-sectional area	longitudinal	[MPa]	≥ 243000	ISO 10406-7
		transversal		≥ 243000	
ε _{nm,uk}	Characteristic elongation at failure under tensile load of the non-metallic reinforcement	longitudinal	[‰]	≥ 12,4	ISO 10406-7
		transversal		≥ 12,4	
_	Characteristic tensile force transmission of the non- metallic reinforcement per m width	longitudinal	- [kN/m]	278	ISO 10406-7
F _{nm,k}		transversal		278	
Furti	her key values		Unit	Value	Standard
dg	Recommended maximum grain size in concrete ²⁾		[mm]	8	-
Stan	dard goods variety		Unit	Value	Tolerance
		Length		6,0	± 16 mm
Single mesh –		Width	[m]	2,30	± 12 mm
Roll in CARGO SYSTEM -		Length	- [m]	≤ 130,0	-
		Width		2,30	± 12 mm
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