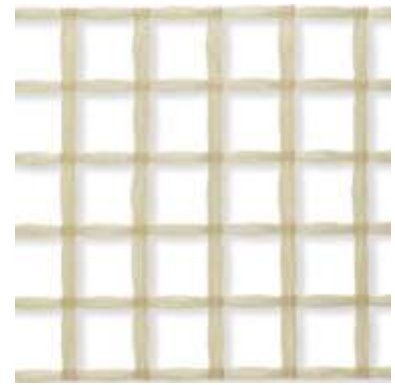


solidian GRID Q121-RRE-38

Symmetrical, bidirectional reinforcement mats (type Q) made of alkali-resistant glass fiber reinforced plastic



Material

Fiber material	R (ECR-glass)
Impregnation material	E (Epoxy resin)
Color	yellowish

Geometry and structure

		Unit	Value	Tolerance	Standard
Directions of the fiber strands	Longitudinal	[°]	0	± 5°	-
	Transversal		90	± 5°	
Fiber strand width	Longitudinal	[mm]	5,7	-	-
	Transversal		7,7	-	
Fiber strand height	Longitudinal	[mm]	3,2	-	-
	Transversal		2,4	-	
Fiber cross-sectional area of fiber strand	Longitudinal	[mm ²]	4,62	-	-
	Transversal		4,62	-	
Fiber cross-sectional area	Longitudinal	[mm ² /m]	121,6	-	-
	Transversal		121,6	-	
Grid width	Longitudinal	[mm]	38	± 10%	-
	Transversal		38	± 10%	
Light spacing of the fiber strands	Longitudinal	[mm]	30,7	± 10%	-
	Transversal		33,1	± 10%	
Grid height		[mm]	5,3	-	-
Weight per unit area		[g/m ²]	901	± 7%	DIN EN 12127

Material properties

		Unit	Value	Tolerance	Standard
Bulk density of the fiber composite material		[g/cm ³]	1,65	± 0,07	ISO 1183-1
Coefficient of thermal expansion	Longitudinal	[10 ⁻⁶ /K]	ca. 10	-	ISO 11359-2 /
	Transversal		ca. 20	-	ISO 10406-1
Glass transition temperature T _{g0} (DMA)		[°C]	≥ 110	-	DIN 65583



Mechanical properties		Unit	Value	Tolerance	Standard
Mean short-time tensile strength regarding fiber cross-sectional area	Longitudinal	[N/mm ²]	1.400	-	ISO 10406-1
	Transversal		1.750	-	
Characteristic short-term tensile strength regarding fiber cross-sectional area	Longitudinal	[N/mm ²]	≥ 1.180	-	ISO 10406-1
	Transversal		≥ 1.400	-	
Average Young's modulus regarding fiber cross-sectional area	Longitudinal	[N/mm ²]	81.550	-	ISO 10406-1
	Transversal		83.200	-	
Characteristic short-time tensile force transmission of the reinforcement	Longitudinal	[kN/m]	≥ 141,5	-	ISO 10406-1
	Transversal		≥ 170,2	-	

Other key values	Unit	Value	Tolerance
Recommended maximum grain size in concrete ¹⁾	[mm]	8	-

Standard goods variety	Unit	Value	Tolerance
Grid	Length	6,0	± 16 mm
	Width	2,30	± 12 mm
Roll	Length	≥ 25,0	-
	Width	2,30	± 12 mm

Single grids up to 3.0 m wide on request. The maximum length of the grid on a roll depends on the product type and transport. Please enquire before ordering. Please specify the required length of the grid on a roll when ordering.

Transport and storage conditions

Non-metallic reinforcements from solidian GmbH must not be damaged during transport, storage, processing and installation and must not be exposed to temperatures higher than 80°C. They must be stored in a dry place, protected from the weather and without touching the ground. 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 must be free from bond-reducing impurities (e.g. grease, soil, loose concrete residue).

¹⁾ d_g = 16 mm possible depending on the manufacturing process.



Product page

<https://solidian.com/products/solidian-grid-carbon-mats/>

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solidian.

📍 Sigmaringer Straße 150
72458 Albstadt
Germany - EU
☎ +49 74 3110 3135
✉ info@solidian.com

📍 Dr. Slavka Rozgaja 3
47000 Karlovac
Croatia - EU
☎ +385 47 693 300
✉ sales@solidian.com



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 qualification and are not subject to continuous control.

The described tensile tests per production order are included in the quotation costs. 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

The use of the product is governed by the respective national regulations at the place of use, in Germany for example the building codes 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, although adjustments must be made for fiber composite plastic reinforcements if applicable standards, guidelines, etc. for fiber composite plastic reinforcements are not available. Accordingly, the respective national standards and regulations must be taken into account in the design.

Processing information

All work must be carried out by trained/instructed personnel only. 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, in particular with regard to tensile strength, only apply if the product is used as intended.

For further information, please refer to the current Technical Information for our solidian GRID reinforcement mats (www.solidian.com/downloads).

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

Protective measures must be observed during all work with cutting equipment, such as wearing cut-resistant gloves, safety goggles and a dust mask. The actual handling of fiber composites should be based on the Technical Rules for Hazardous Substances (TRGS) of the German Federal Institute for Occupational Safety and Health (baua). Furthermore, we refer to the DGUV information "Machining of CFRP materials - Guidance for protective measures" (FB-HM 074, issue 10/2014).

Legal information

The above information is based on our knowledge and experience under normal conditions, provided that the product has been transported, stored, used and processed properly and in accordance with the specifications in this Product Data Sheet and the Technical Information for our solidian GRID reinforcement mats. 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 country-specific regulations must be observed (e.g. approvals in individual cases).

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

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Germany - EU

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📍 Dr. Slavka Rozgaja 3
47000 Karlovac

Croatia - EU

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✉ sales@solidian.com

