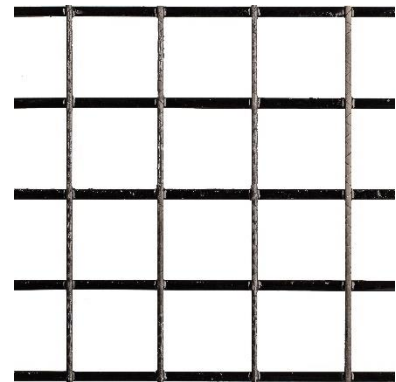


solidian GRID Q27-CCE-68

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



Material

Fiber material	C (Carbon)
Impregnation material	E (Epoxy resin)
Color	black
Chemical resistance acc. to EN 1992	up to XD3
	up to XS3
	up to XF4
	up to XA3

Geometry and structure		Unit	Value	Tolerance	Standard
Directions of the fiber strands	Longitudinal	[°]	0	± 5°	-
	Transversal		90	± 5°	
Fiber strand width	Longitudinal	[mm]	-	-	-
	Transversal		-	-	
Fiber strand height	Longitudinal	[mm]	-	-	-
	Transversal		-	-	
Fiber cross-sectional area of fiber strand	Longitudinal	[mm ²]	1,81	-	-
	Transversal		1,81	-	
Fiber cross-sectional area	Longitudinal	[mm ² /m]	26,6	-	-
	Transversal		26,6	-	
Grid width	Longitudinal	[mm]	68	± 10%	-
	Transversal		68	± 10%	
Light spacing of the fiber strands	Longitudinal	[mm]	-	± 10%	-
	Transversal		-	± 10%	
Grid height		[mm]	-	-	-
Weight per unit area		[g/m ²]	-	± 7%	DIN EN 12127

Material properties		Unit	Value	Tolerance	Standard
Bulk density of the fiber composite material		[g/cm ³]	1,28	± 0,06	ISO 1183-1
Coefficient of thermal expansion	Longitudinal	[10 ⁻⁶ /K]	ca. -1,4	-	ISO 11359-2 / ISO 10406-1
	Transversal		ca. 36	-	
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]	≥ 3.300	-	ISO 10406-1
	Transversal		≥ 3.300	-	
Characteristic short-term tensile strength regarding fiber cross-sectional area	Longitudinal	[N/mm ²]	≥ 2.800	-	ISO 10406-1
	Transversal		≥ 2.800	-	
Average Young's modulus regarding fiber cross-sectional area	Longitudinal	[N/mm ²]	≥ 230.000	-	ISO 10406-1
	Transversal		≥ 230.000	-	
Characteristic short-time tensile force transmission of the reinforcement	Longitudinal	[kN/m]	≥ 74,5	-	ISO 10406-1
	Transversal		≥ 74,5	-	

Other key values

	Unit	Value	Tolerance
Recommended maximum grain size in concrete	[mm]	16	-

Standard goods variety

		Unit	Value	Tolerance
Grid	Length	[m]	6,0	-
	Width		2,30	-
Roll	Length	[m]	80,0	-
	Width		2,30	-

Other delivery forms up to a maximum width of 3.0 m on request.

Storage conditions

Protect from the effects of weather, especially from direct sunlight. Do not exceed maximum duration of unprotected storage of 4 weeks. Store rolled goods flat after 6 months from delivery at the latest.



Product page

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

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📍 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 average 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.

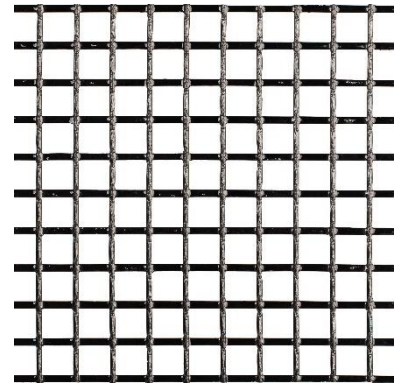
Since non-metallic reinforcements are not yet regulated by building authorities in most countries, planners, specialist planners, building authorities, structural engineers, experts, etc. must be consulted for load-bearing components and country-specific regulations must be observed (e.g. approvals in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



solidian GRID Q43-CCE-21

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



Material

Fiber material	C (Carbon)
Impregnation material	E (Epoxy resin)
Color	black
Chemical resistance acc. to EN 1992	up to XD3
	up to XS3
	up to XF4
	up to XA3

Geometry and structure		Unit	Value	Tolerance	Standard
Directions of the fiber strands	Longitudinal	[°]	0	± 5°	-
	Transversal		90	± 5°	
Fiber strand width	Longitudinal	[mm]	2,2	-	-
	Transversal		3,0	-	
Fiber strand height	Longitudinal	[mm]	1,4	-	-
	Transversal		1,1	-	
Fiber cross-sectional area of fiber strand	Longitudinal	[mm ²]	0,905	-	-
	Transversal		0,905	-	
Fiber cross-sectional area	Longitudinal	[mm ² /m]	42,5	-	-
	Transversal		42,3	-	
Grid width	Longitudinal	[mm]	21	± 3,0	-
	Transversal		21	± 3,0	
Light spacing of the fiber strands	Longitudinal	[mm]	18,3	± 3,0	-
	Transversal		19,1	± 3,0	
Grid height		[mm]	2,2	-	-
Weight per unit area		[g/m ²]	280	± 7%	DIN EN 12127

Material properties		Unit	Value	Tolerance	Standard
Bulk density of the fiber composite material		[g/cm ³]	1,26	± 0,06	ISO 1183-1
Coefficient of thermal expansion	Longitudinal	[10 ⁻⁶ /K]	ca. -1,4	-	ISO 11359-2 / ISO 10406-1
	Transversal		ca. 36	-	
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]	≥ 4.050	-	ISO 10406-1
	Transversal		≥ 4.200	-	
Characteristic short-term tensile strength regarding fiber cross-sectional area	Longitudinal	[N/mm ²]	≥ 3.200	-	ISO 10406-1
	Transversal		≥ 3.300	-	
Average Young's modulus regarding fiber cross-sectional area	Longitudinal	[N/mm ²]	≥ 243.500	-	ISO 10406-1
	Transversal		≥ 247.000	-	
Characteristic short-time tensile force transmission of the reinforcement	Longitudinal	[kN/m]	≥ 136,0	-	ISO 10406-1
	Transversal		≥ 139,6	-	

Other key values

	Unit	Value	Tolerance
Recommended maximum grain size in concrete ¹⁾	[mm]	5	-

Standard goods variety

		Unit	Value	Tolerance
Grid	Length	[m]	6,0	-
	Width		2,30	-
Roll	Length	[m]	80,0	-
	Width		2,30	-

Other delivery forms up to a maximum width of 3.0 m on request.

Storage conditions

Protect from the effects of weather, especially from direct sunlight. Do not exceed maximum duration of unprotected storage of 4 weeks. Store rolled goods flat after 6 months from delivery at the latest.

¹⁾ d_g = 8 mm possible depending on the manufacturing process.



Product page

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

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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 average 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.

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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.



📍 Sigmaringer Straße 150
72458 Albstadt
Germany - EU

☎ +49 74 3110 3135

✉ info@solidian.com

📍 Dr. Slavka Rozgaja 3
47000 Karlovac
Croatia - EU

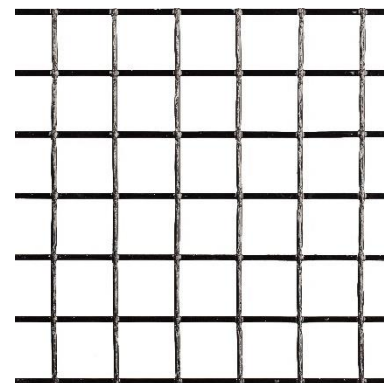
☎ +385 47 693 300

✉ sales@solidian.com



solidian GRID Q47-CCE-38

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



Material

Fiber material	C (Carbon)
Impregnation material	E (Epoxy resin)
Color	black
Chemical resistance acc. to EN 1992	up to XD3
	up to XS3
	up to XF4
	up to XA3

Geometry and structure		Unit	Value	Tolerance	Standard
Directions of the fiber strands	Longitudinal	[°]	0	± 5°	-
	Transversal		90	± 5°	
Fiber strand width	Longitudinal	[mm]	3,5	-	-
	Transversal		4,1	-	
Fiber strand height	Longitudinal	[mm]	1,9	-	-
	Transversal		1,8	-	
Fiber cross-sectional area of fiber strand	Longitudinal	[mm ²]	1,81	-	-
	Transversal		1,81	-	
Fiber cross-sectional area	Longitudinal	[mm ² /m]	47,3	-	-
	Transversal		47,1	-	
Grid width	Longitudinal	[mm]	38	± 10%	-
	Transversal		38	± 10%	
Light spacing of the fiber strands	Longitudinal	[mm]	34,2	± 10%	-
	Transversal		34,9	± 10%	
Grid height		[mm]	3,4	-	-
Weight per unit area		[g/m ²]	309	± 7%	DIN EN 12127

Material properties		Unit	Value	Tolerance	Standard
Bulk density of the fiber composite material		[g/cm ³]	1,26	± 0,06	ISO 1183-1
Coefficient of thermal expansion	Longitudinal	[10 ⁻⁶ /K]	ca. -1,4	-	ISO 11359-2 / ISO 10406-1
	Transversal		ca. 36	-	
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]	≥ 3.850	-	ISO 10406-1
	Transversal		≥ 4.050	-	
Characteristic short-term tensile strength regarding fiber cross-sectional area	Longitudinal	[N/mm ²]	≥ 3.100	-	ISO 10406-1
	Transversal		≥ 3.100	-	
Average Young's modulus regarding fiber cross-sectional area	Longitudinal	[N/mm ²]	≥ 250.500	-	ISO 10406-1
	Transversal		≥ 251.000	-	
Characteristic short-time tensile force transmission of the reinforcement	Longitudinal	[kN/m]	≥ 146,6	-	ISO 10406-1
	Transversal		≥ 146,0	-	

Other key values

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

Standard goods variety

		Unit	Value	Tolerance
Grid	Length	[m]	6,0	-
	Width		2,30	-
Roll	Length	[m]	80,0	-
	Width		2,30	-

Other delivery forms up to a maximum width of 3.0 m on request.

Storage conditions

Protect from the effects of weather, especially from direct sunlight. Do not exceed maximum duration of unprotected storage of 4 weeks. Store rolled goods flat after 6 months from delivery at the latest.

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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📍 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 average 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.

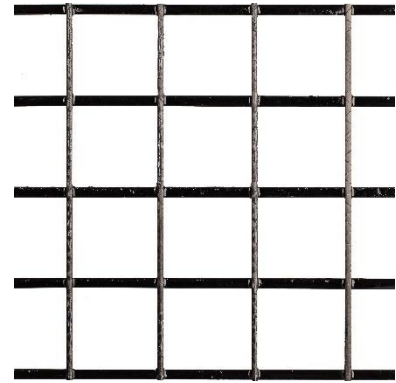
Since non-metallic reinforcements are not yet regulated by building authorities in most countries, planners, specialist planners, building authorities, structural engineers, experts, etc. must be consulted for load-bearing components and country-specific regulations must be observed (e.g. approvals in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



solidian GRID Q71-CCE-51

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



Material

Fiber material	C (Carbon)
Impregnation material	E (Epoxy resin)
Color	black
Chemical resistance acc. to EN 1992	up to XD3
	up to XS3
	up to XF4
	up to XA3

Geometry and structure		Unit	Value	Tolerance	Standard
Directions of the fiber strands	Longitudinal	[°]	0	± 5°	-
	Transversal		90	± 5°	
Fiber strand width	Longitudinal	[mm]	5,0	-	-
	Transversal		5,8	-	
Fiber strand height	Longitudinal	[mm]	2,7	-	-
	Transversal		2,6	-	
Fiber cross-sectional area of fiber strand	Longitudinal	[mm ²]	3,62	-	-
	Transversal		3,62	-	
Fiber cross-sectional area	Longitudinal	[mm ² /m]	70,8	-	-
	Transversal		70,8	-	
Grid width	Longitudinal	[mm]	51	± 10%	-
	Transversal		51	± 10%	
Light spacing of the fiber strands	Longitudinal	[mm]	45,4	± 10%	-
	Transversal		46,2	± 10%	
Grid height		[mm]	4,6	-	-
Weight per unit area		[g/m ²]	453	± 7%	DIN EN 12127

Material properties		Unit	Value	Tolerance	Standard
Bulk density of the fiber composite material		[g/cm ³]	1,24	± 0,06	ISO 1183-1
Coefficient of thermal expansion	Longitudinal	[10 ⁻⁶ /K]	ca. -1,4	-	ISO 11359-2 / ISO 10406-1
	Transversal		ca. 36	-	
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]	≥ 3.600	-	ISO 10406-1
	Transversal		≥ 3.900	-	
Characteristic short-term tensile strength regarding fiber cross-sectional area	Longitudinal	[N/mm ²]	≥ 2.750	-	ISO 10406-1
	Transversal		≥ 3.100	-	
Average Young's modulus regarding fiber cross-sectional area	Longitudinal	[N/mm ²]	≥ 247.500	-	ISO 10406-1
	Transversal		≥ 253.000	-	
Characteristic short-time tensile force transmission of the reinforcement	Longitudinal	[kN/m]	≥ 194,7	-	ISO 10406-1
	Transversal		≥ 219,5	-	

Other key values

	Unit	Value	Tolerance
Recommended maximum grain size in concrete	[mm]	16	-

Standard goods variety

		Unit	Value	Tolerance
Grid	Length	[m]	6,0	-
	Width		2,30	-
Roll	Length	[m]	80,0	-
	Width		2,30	-

Other delivery forms up to a maximum width of 3.0 m on request.

Storage conditions

Protect from the effects of weather, especially from direct sunlight. Do not exceed maximum duration of unprotected storage of 4 weeks. Store rolled goods flat after 6 months from delivery at the latest.



Product page

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

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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 average 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.

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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

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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).

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📍 Sigmaringer Straße 150
72458 Albstadt
Germany - EU

☎ +49 74 3110 3135

✉ info@solidian.com

📍 Dr. Slavka Rozgaja 3
47000 Karlovac
Croatia - EU

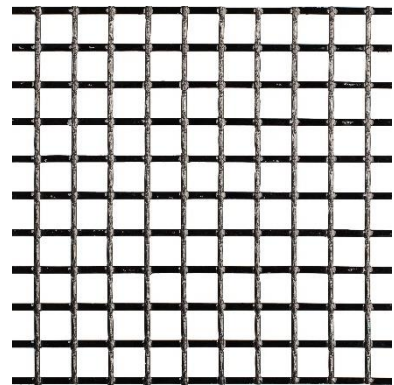
☎ +385 47 693 300

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solidian GRID Q85-CCE-21

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



Material

Fiber material	C (Carbon)
Impregnation material	E (Epoxy resin)
Color	black
Chemical resistance acc. to EN 1992	up to XD3
	up to XS3
	up to XF4
	up to XA3

Geometry and structure		Unit	Value	Tolerance	Standard
Directions of the fiber strands	Longitudinal	[°]	0	± 5°	-
	Transversal		90	± 5°	
Fiber strand width	Longitudinal	[mm]	3,4	-	-
	Transversal		4,2	-	
Fiber strand height	Longitudinal	[mm]	1,8	-	-
	Transversal		1,5	-	
Fiber cross-sectional area of fiber strand	Longitudinal	[mm ²]	1,81	-	-
	Transversal		1,81	-	
Fiber cross-sectional area	Longitudinal	[mm ² /m]	85,4	-	-
	Transversal		84,6	-	
Grid width	Longitudinal	[mm]	21	± 3,0	-
	Transversal		21	± 3,0	
Light spacing of the fiber strands	Longitudinal	[mm]	17,0	± 3,0	-
	Transversal		18,0	± 3,0	
Grid height		[mm]	2,4	-	-
Weight per unit area		[g/m ²]	512	± 7%	DIN EN 12127

Material properties		Unit	Value	Tolerance	Standard
Bulk density of the fiber composite material		[g/cm ³]	1,26	± 0,06	ISO 1183-1
Coefficient of thermal expansion	Longitudinal	[10 ⁻⁶ /K]	ca. -1,4	-	ISO 11359-2 / ISO 10406-1
	Transversal		ca. 36	-	
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]	≥ 3.950	-	ISO 10406-1
	Transversal		≥ 4.250	-	
Characteristic short-term tensile strength regarding fiber cross-sectional area	Longitudinal	[N/mm ²]	≥ 3.050	-	ISO 10406-1
	Transversal		≥ 3.250	-	
Average Young's modulus regarding fiber cross-sectional area	Longitudinal	[N/mm ²]	≥ 251.500	-	ISO 10406-1
	Transversal		≥ 254.000	-	
Characteristic short-time tensile force transmission of the reinforcement	Longitudinal	[kN/m]	≥ 260,5	-	ISO 10406-1
	Transversal		≥ 275,0	-	

Other key values

	Unit	Value	Tolerance
Recommended maximum grain size in concrete ¹⁾	[mm]	5	-

Standard goods variety

		Unit	Value	Tolerance
Grid	Length	[m]	6,0	-
	Width		2,30	-
Roll	Length	[m]	80,0	-
	Width		2,30	-

Other delivery forms up to a maximum width of 3.0 m on request.

Storage conditions

Protect from the effects of weather, especially from direct sunlight. Do not exceed maximum duration of unprotected storage of 4 weeks. Store rolled goods flat after 6 months from delivery at the latest.

¹⁾ d_g = 8 mm possible depending on the manufacturing process.



Product page

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

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📍 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 average 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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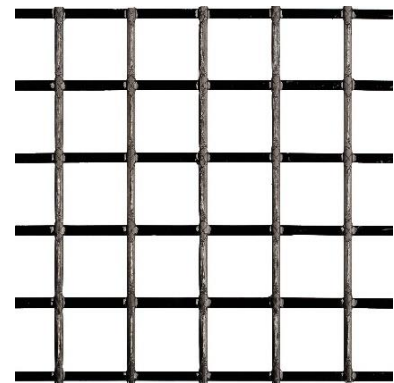
☎ +385 47 693 300

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solidian GRID Q95-CCE-38

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



Material

Fiber material	C (Carbon)
Impregnation material	E (Epoxy resin)
Color	black
Chemical resistance acc. to EN 1992	up to XD3
	up to XS3
	up to XF4
	up to XA3

Geometry and structure		Unit	Value	Tolerance	Standard
Directions of the fiber strands	Longitudinal	[°]	0	± 5°	-
	Transversal		90	± 5°	
Fiber strand width	Longitudinal	[mm]	4,8	-	-
	Transversal		5,5	-	
Fiber strand height	Longitudinal	[mm]	2,7	-	-
	Transversal		2,5	-	
Fiber cross-sectional area of fiber strand	Longitudinal	[mm ²]	3,62	-	-
	Transversal		3,62	-	
Fiber cross-sectional area	Longitudinal	[mm ² /m]	95,3	-	-
	Transversal		95,3	-	
Grid width	Longitudinal	[mm]	38	± 10%	-
	Transversal		38	± 10%	
Light spacing of the fiber strands	Longitudinal	[mm]	32,8	± 10%	-
	Transversal		33,5	± 10%	
Grid height		[mm]	4,0	-	-
Weight per unit area		[g/m ²]	559	± 7%	DIN EN 12127

Material properties		Unit	Value	Tolerance	Standard
Bulk density of the fiber composite material		[g/cm ³]	1,28	± 0,06	ISO 1183-1
Coefficient of thermal expansion	Longitudinal	[10 ⁻⁶ /K]	ca. -1,4	-	ISO 11359-2 / ISO 10406-1
	Transversal		ca. 36	-	
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]	≥ 3.550	-	ISO 10406-1
	Transversal		≥ 3.950	-	
Characteristic short-term tensile strength regarding fiber cross-sectional area	Longitudinal	[N/mm ²]	≥ 2.800	-	ISO 10406-1
	Transversal		≥ 3.000	-	
Average Young's modulus regarding fiber cross-sectional area	Longitudinal	[N/mm ²]	≥ 246.000	-	ISO 10406-1
	Transversal		≥ 249.500	-	
Characteristic short-time tensile force transmission of the reinforcement	Longitudinal	[kN/m]	≥ 266,8	-	ISO 10406-1
	Transversal		≥ 285,9	-	

Other key values

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

Standard goods variety

		Unit	Value	Tolerance
Grid	Length	[m]	6,0	-
	Width		2,30	-
Roll	Length	[m]	80,0	-
	Width		2,30	-

Other delivery forms up to a maximum width of 3.0 m on request.

Storage conditions

Protect from the effects of weather, especially from direct sunlight. Do not exceed maximum duration of unprotected storage of 4 weeks. Store rolled goods flat after 6 months from delivery at the latest.

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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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 average 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

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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.

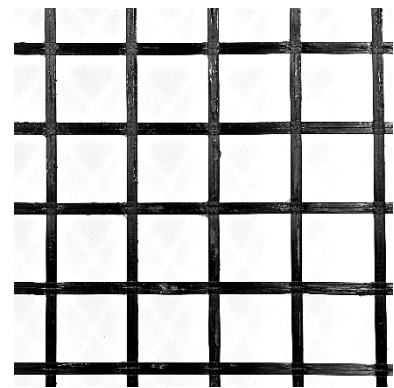
Since non-metallic reinforcements are not yet regulated by building authorities in most countries, planners, specialist planners, building authorities, structural engineers, experts, etc. must be consulted for load-bearing components and country-specific regulations must be observed (e.g. approvals in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



solidian GRID Q122-CCE-59

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



Material

Fiber material	C (Carbon)
Impregnation material	E (Epoxy resin)
Color	black
Chemical resistance acc. to EN 1992	up to XD3
	up to XS3
	up to XF4
	up to XA3

Geometry and structure		Unit	Value	Tolerance	Standard
Directions of the fiber strands	Longitudinal	[°]	0	± 5°	-
	Transversal		90	± 5°	
Fiber strand width	Longitudinal	[mm]	9,3	-	-
	Transversal		8,6	-	
Fiber strand height	Longitudinal	[mm]	3,1	-	-
	Transversal		3,2	-	
Fiber cross-sectional area of fiber strand	Longitudinal	[mm ²]	7,24	-	-
	Transversal		7,24	-	
Fiber cross-sectional area	Longitudinal	[mm ² /m]	122,7	-	-
	Transversal		122,7	-	
Grid width	Longitudinal	[mm]	59	± 10%	-
	Transversal		59	± 10%	
Light spacing of the fiber strands	Longitudinal	[mm]	51,0	± 10%	-
	Transversal		50,3	± 10%	
Grid height		[mm]	3,8	-	-
Weight per unit area		[g/m ²]	709	± 7%	DIN EN 12127

Material properties		Unit	Value	Tolerance	Standard
Bulk density of the fiber composite material		[g/cm ³]	1,28	± 0,06	ISO 1183-1
Coefficient of thermal expansion	Longitudinal	[10 ⁻⁶ /K]	ca. -1,4	-	ISO 11359-2 / ISO 10406-1
	Transversal		ca. 36	-	
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]	≥ 3.350	-	ISO 10406-1
	Transversal		≥ 3.400	-	
Characteristic short-term tensile strength regarding fiber cross-sectional area	Longitudinal	[N/mm ²]	≥ 2.700	-	ISO 10406-1
	Transversal		≥ 2.700	-	
Average Young's modulus regarding fiber cross-sectional area	Longitudinal	[N/mm ²]	≥ 245.000	-	ISO 10406-1
	Transversal		≥ 247.500	-	
Characteristic short-time tensile force transmission of the reinforcement	Longitudinal	[kN/m]	≥ 331,3	-	ISO 10406-1
	Transversal		≥ 331,3	-	

Other key values

	Unit	Value	Tolerance
Recommended maximum grain size in concrete	[mm]	16	-

Standard goods variety

	Unit	Value	Tolerance
Grid	Length	6,0	-
	Width	2,30	-

Other delivery forms up to a maximum width of 3.0 m on request.

Storage conditions

Protect from the effects of weather, especially from direct sunlight. Do not exceed maximum duration of unprotected storage of 4 weeks. Store rolled goods flat after 6 months from delivery at the latest.



Product page

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

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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 average 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.

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Country-specific regulations

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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

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Industrial safety and health

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Legal information

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📍 Dr. Slavka Rozgaja 3
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