



TD44C - NEW PRODUCT RANGE FOR THERMOSET APPLICATIONS

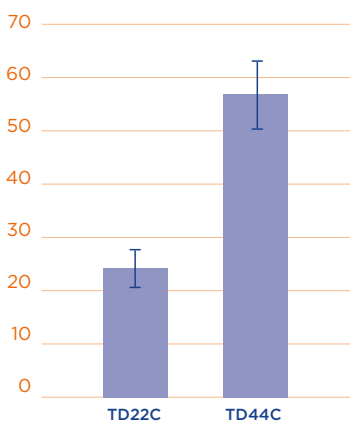
Product description

New TD44C continuous E-glass filament Zerotwist®, offered in low counts of 68 & 300 Tex, are produced with a starch free sizing system containing silane bonding agents providing excellent compatibility with thermoset resins such as epoxy, unsaturated polyester (UP), vinyl ester or even phenolic. TD44C Glass filament strands exhibit excellent twisting & textile properties, enabling the production of twisted glass yarn and different textile structures like e.g. woven fabrics, warp-knitted fabrics, narrow fabric (tapes) and multi-axial fabrics. These products can be used in thermoset composite applications without any heat cleaning and further sizing.

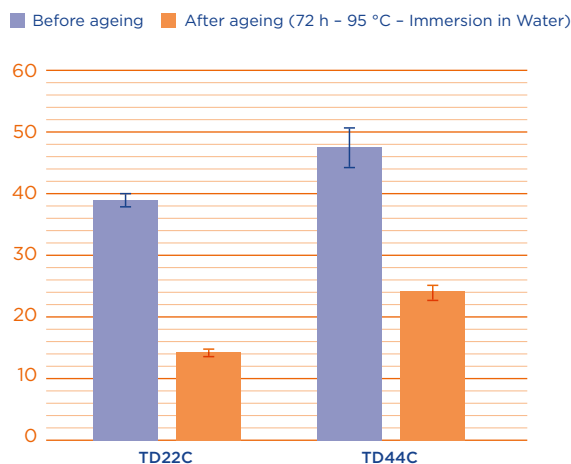
Main Advantages

- Excellent textile properties with very low fuzz level
- Easy and very fast impregnation/wetting by different thermoset resins
- Enable production of thin & Lightweight fabric
- Improved fibre/matrix adhesion with thermoset resin
- Enhanced ageing behavior
- Splice free single end roving, free of catenary

Uniaxial tensile strength in 0°C of UD laminates (MPa)



Interlaminar shearing strength of Unsaturated polyester based-UD Laminates (MPa)



Packaging Information

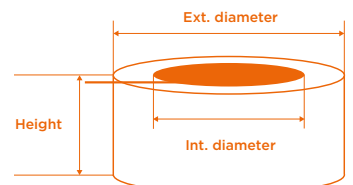
EC9 68: 88 bobbins per pallet
EC14 300: 48 bobbins per pallet

Nominal weight per pallet
EC9 68: 880 kg (1940 lbs)
EC14 300: 960 kg (2116 lbs)

Nominal bobbin weight
EC9 68: 10 kg (22.05 lbs)
EC14 300: 20 kg (44.09 lbs)

Nominal bobbin dimension EC9 68:
Inside 207 mm (8.15")
Outside 325 mm (12.8")
Height 125 mm (4.92")

EC14 300:
Inside 203.5 mm (8.01")
Outside 310 mm (12.21")
Height 257.5 mm (10.14")



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Available products

Reference	Unit	ECG75 1/0 ZTW / EC9 68 ZTW	ECL16 1/0 / EC14 300	Test Method
Linear density	Tex (g/km)	68	300	ISO 1889
	Yds/lb	7 295	1 654	
Fibre diameter	µm	9	14	-
Sizing		Silane	Silane	-
LOI	%	0.60	0.65	ISO 1887
MOI	%	< 0.3	< 0.3	ISO 3344
Breaking force	N	35	180	ISO 3341
	lbf	7,87	40,47	

Composite Properties

	Characteristics	Standard	Units	ZTW EC9 68 / ECG 75		DR EC14 300 / ECL 16	
				Epoxy	UP	Epoxy	UP
UD Laminate	Longitudinal tensile strength	ISO 527-5	MPa	920	1000	1180	1150
	Longitudinal tensile modulus	ISO 527-5	GPa	38	46	48	56
	Transversal tensile strength	ISO 527-5	MPa	51	34	62	42
	Fibre Volume Fraction	ISO 1172	Vol. %	53	63	58	63
	Interlaminar Shearing strength before ageing*	ASTM D2344	MPa	60	41	62	59
	Interlaminar Shearing strength after ageing*	ASTM D2344	MPa	47	33	48	29
	Fibre Volume Fraction	ISO 1172	Vol. %	54	62	55	60
Impregnated strand	Tensile Modulus	ISO 9163	GPa	70	70,5	81	70
	Tensile Strength	ISO 9163	MPa	1800	2160	2380	2155
	Elongation at break	ISO 9163	%	2,6	3,2	3,2	3,4
	Glass content	-	wt. %	70	80	70	80

* Hot water boiling test 72 h @ 95 °C



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Recommended storage & processing conditions

The material should be stored in its original packaging in dry conditions away from direct sunbeam. Storage temperatures of between 10 and 35 °C (50 and 95 °F) and a relative humidity of between 40 and 70% are recommended. We recommend to use the material within 12 months from date of manufacture. Retesting is advised after 1 year from initial manufacture date to insure optimum performance. Before processing, the material should be conditioned by exposing it unpacked to the processing climate for at least 24 hours. In order to reduce the influence of storage conditions, Vetrotex recommends a First-in-First-out procedure on stocked material.

Staking information

In order to avoid any potential injury or damage, we recommend not to stack any pallets with our ZeroTwist products, neither in transport nor in storage.

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