



Trade Remedies Authority

Request for information relating to Transition Reviews TD0008 and TS0009

As part of this review of continuous filament glass fibre products originating in the People's Republic of China, the TRA requests further submissions regarding the characteristics of the goods subject to review as well as like goods.

Product		
Product Group	Description and Commodity Code	Product Control Number (PCN)
A	Chopped glass fibre strands, of a length of not more than 50 mm: a. 7019 11 00 00	CSDU: Dry-use chopped strands
		CSWU: Wet-use chopped strands
B	Glass fibre rovings, excluding glass fibre rovings which are impregnated and coated and have a loss on ignition of more than 3% (as determined by the ISO Standard 1887): a. 7019 12 00 22 b. 7019 12 00 25 c. 7019 12 00 26 d. 7019 12 00 39	ROAS: Assembled rovings (or multi-End rovings)
		RODI: Direct rovings
		ROVD: Volumenised direct rovings or texturised rovings
C	Mats made of glass fibre filaments excluding mats of glass wool: a. 7019 31 00 00	MCSE: Chopped strand mats with emulsion binder
		MCSP: Chopped strand mats with powder binder
		MCFE: Continuous filament mats with emulsion binder
		MCFP: Continuous filament mats with powder binder

Please detail the degree of similarity or difference within each product group A, B and C above by indicating the degree of physical likeness, commercial likeness and functional likeness including interchangeability and end use.

Please provide any other information that you consider relevant to this request.

All responses should be uploaded to the Trade Remedies Service (www.trade-remedies.service.gov.uk) by the 6th January 2022. Please remember to upload responses to this request to both TD0008 and TS0009 case files in confidential and non-confidential versions.

Response:

In general, chopped glass fibre strands (product group A), glass fibre rovings (product group B) and mats made of glass fibre filaments (product group C) are three different product groups resulting from the glass fibre production process which consists of five basic steps, i.e. batching, melting, fiberization, sizing and drying/packaging (see Figure 1).

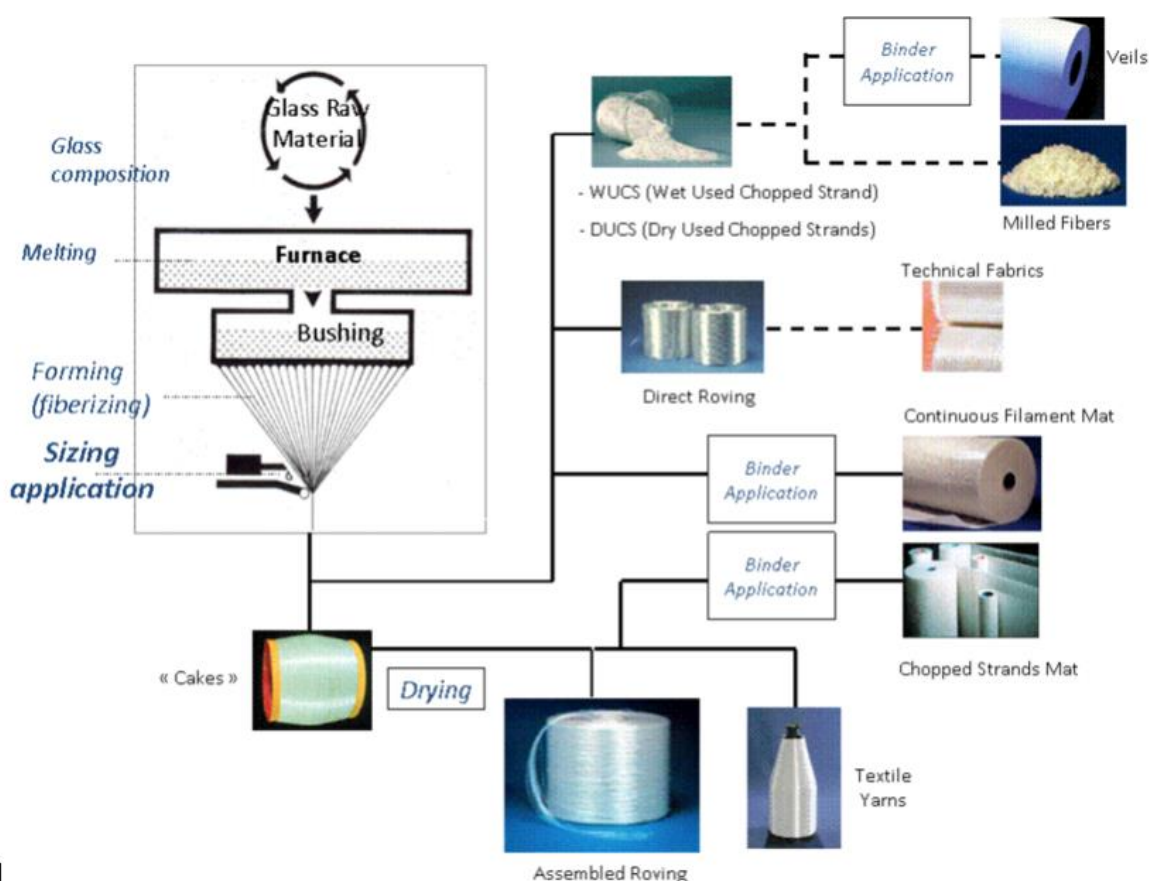


Figure 1 Glass fibre production process

As illustrated in the flow chart above, glass raw materials are blended and then melted in a furnace. The molten glass is then drawn through a multi-hole heat resistant precious tray called a bushing, which has up to a few thousands of precisely drilled openings through which the glass flows to form thin filaments. The filaments are

treated by various chemical and physical processes called "sizing", which alter their properties and make them suitable for a wide range of specific reinforcement uses.

From this point, different glass fibre products are formed in different processes:

- direct rovings (RODI) are produced by pulling individual fibres directly from the bushing and then winding them onto a roving package;
- assembled rovings (ROAS) are made from multiple strands wound together into a multi-end roving package, requiring additional handling and processing steps;
- volumised direct rovings or texturised rovings (ROVD) comes from a texturising process in which the roving is subject to an air jet that impinges on its surface to make the fibre fluffy;
- chopped Strands are made by bundling thousands of filaments together and chopping them into specified lengths before drying (CSDU) or without drying (CSWU).
- chopped strand mat is formed by randomly depositing chopped fibres onto a belt or chain and binding them with a chemical binder, while continuous filament mats are formed in a similar manner but without chopping.

Further details are presented in the table below concerning the degree of similarity and difference within each product group:

Product Group A	CSDU: Dry-use chopped strands	CSWU: Wet-use chopped strands
Physical likeness	Made from short-cut glass fibres, generally with a given length of 3.0mm or 4.5mm; moisture content <0.05%; combustible content 0.30%-1.00%	Made from short-cut glass fibres, generally with a given length of 36mm, 12mm or 18mm; moisture content 8%-10%; combustible content 0.05%-0.20%
Functional likeness	Improving product performance in terms of strength, stiffness and thermal deformation temperature	Improving product performance in terms of strength, stiffness and thermal deformation temperature
Functional differences	Short length brings with good strand integrity, minimum fuzz and low static; preferred product for the extrusion granulation process	High moisture content delivers outstanding flowability, including quick and uniform dispersion in water and gypsum; specially developed for use in wet-formed mats and veils
End-use differences	Suitable across a diverse range of end-use applications such as home appliances, electrical panels, automotive water tanks, automotive engine cooling fans, etc.	Typical end-use applications include water-proof roofing material, GRP surface, facing material, floor covering and battery separators

Compatibility with resins	Generally compatible with thermosetting resins while some compatible with thermoplastic resins	Compatible with thermosetting resins and asphalt
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Product Group B	ROAS: Assembled rovings (or multi-End rovings)	RODI: Direct rovings	ROVD: Volumenised direct rovings or texturised rovings
Physical likeness	Made from multiple strands wound together into a multi-end roving package, with a relatively hard touch; combustible content: 0.30% to 1.50%.	Single-end rovings in continuous form with a relatively soft touch; combustible content 0.35% to 0.75%.	Single-end rovings in continuous form; combustible content 0.15 to 0.75%; The air jet causes the surface filaments to break at random, giving the roving a bulkier appearance
Functional likeness	Improving product performance in terms of strength, stiffness and thermal deformation temperature	Improving product performance in terms of strength, stiffness and thermal deformation temperature	Improving product performance in terms of strength, stiffness and thermal deformation temperature
Functional differences	The weak bond between the continuous fibres provides good fibre dispersion and good choppability, ideally suited for fibre injection or for producing cut glass or glass fibre mats.	Single-end rovings in continuous form bring consistent tension, good unwinding performance and good weaving properties	The fluffy fibre structure allows for good coverage and breathability, thus increasing filtration efficiency and reducing filtration resistance
End-use differences	The final products include car bumpers, electrical meter boxes, large storage tanks, light panels, bathtubs, ceilings, etc.	Typical end-use applications include oil pipelines, turbine blades, leaf springs, tent poles, FRP doors and windows, electrical switch panels etc.	Preferred products for car silencers, fibreglass wall coverings, etc.
Compatibility with resins	To be used in combination with resin, mostly for thermosetting resins	To be used in combination with resin, compatible with thermosetting resins and asphalt	Not normally used with resin

Product Group C	MCSE: Chopped strand mats with emulsion binder	MCSP: Chopped strand mats with powder binder	MCFE: Continuous filament mats with emulsion binder	MCFP: Continuous filament mats with powder binder
Physical likeness	Made from assembled rovings cut into a length of 50mm, bonded with emulsion binder; moisture content $\leq 0.20\%$; combustible content: 3% to 15%.	Made from assembled rovings cut into a length of 50mm, bonded with powder binder; moisture content $\leq 0.20\%$; combustible content: 3% to 15%.	Made from assembled rovings without chopping, bonded with emulsion binder; moisture content $\leq 0.20\%$; combustible content: 6%-20%.	Made from assembled rovings without chopping, bonded with powder binder; moisture content $\leq 0.20\%$; combustible content: 6%-20%.
Functional likeness	Improving product performance in terms of strength, stiffness and thermal deformation temperature	Improving product performance in terms of strength, stiffness and thermal deformation temperature	Improving product performance in terms of strength, stiffness and thermal deformation temperature	Improving product performance in terms of strength, stiffness and thermal deformation temperature
Functional differences	Non-directional and uniform distribution of short cut filament makes it easy to cut and handle, specially designed for hand lay-up and continuous laminating process; Meanwhile, emulsion bonding ensures a smooth surface with no loss of filaments.	Non-directional and uniform distribution of short cut filament makes it easy to cut and handle, specially designed for hand lay-up and continuous laminating process; Meanwhile, powder bonding provides a fluffy and soft touch but a relatively rough surface.	Continuous filaments in a non-directional and multi-nodal interlocking structure, resulting in high unidirectional tensile strength and tear resistance; suited for closed mould processes and unidirectional processes such as pultrusion, where some transverse strength is required. Meanwhile, emulsion	Continuous filaments in a non-directional and multi-nodal interlocking structure, resulting in high unidirectional tensile strength and tear resistance; suited for closed mould processes and unidirectional processes such as pultrusion, where some transverse strength is required. Meanwhile, powder

			bonding ensures a smooth surface with no loss of filaments.	bonding provides a fluffy and soft touch but a relatively rough surface.
End-use differences	Excellent reinforcement material for translucent roofing panel, chemical storage tanks, FRP pipes, boats hulls and decks, truck body panel etc.	Excellent reinforcement material for translucent roofing panel, chemical storage tanks, FRP pipes, boats hulls and decks, truck body panel etc.	End-use applications include resin wire profiles, pipes, turbine blades, tanks for medical equipment etc.	End-use applications include resin wire profiles, pipes, turbine blades, tanks for medical equipment etc.
Compatibility with resins	Compatible with thermosetting and thermoplastic resins	Compatible with thermosetting and thermoplastic resins	Compatible with thermosetting resins	Compatible with thermosetting resins