



Continuous Filament Glass Fibre Classification

Our products are defined as Continuous Filament Glass Fibre Products.

Glass fibres are categorized within a group of man-made materials historically referred to as man-made mineral fibres (MMMF). However, a more appropriate name is man-made vitreous fibres (MMVFs) or synthetic vitreous fibres (SVFs), reflecting the glassy, non-crystalline nature of the material. The glass used to produce the fibres is made by melting from molten sand and other inorganic materials under highly controlled conditions.

The predominant glass composition for continuous filament glass fibres is known as E-glass. E-glass is a member of the family calcium-aluminum-silicate glasses. For some applications requiring specific properties, another glass family – C-glass - is also used to produce continuous filament glass fibres.

Continuous filament glass fibres are produced by a continuous drawing process through the calibrated holes or bushings at constant speed, thus leading to a very narrow variation in filament diameter.

The typical diameter of continuous filament glass fibres products ranges from 5 to 16 microns.

Another characteristic of the manufacturing process is that it gives a parallel orientation to the continuous filaments constituting the fibre bundles.

Further processing of continuous filament products does not generate any change in diameter of filaments.

Continuous filament glass fibres are not “respirable”

According to the WHO definition, respirable fibres have a diameter (d) smaller than 3 microns, a length (l) larger than 5 microns and a l/d- ratio larger than or equal to 3. Fibres with diameters greater than 3 microns, which is the case for continuous filament glass fibres, do not reach the lower respiratory tract and, therefore have no possibility of causing serious pulmonary disease.

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In 1987, the International Agency for Research on Cancer (IARC) conducted a review to determine whether these fibres are carcinogenic to humans. At that time, IARC concluded that continuous filament glass fibres are not classifiable as to their carcinogenicity to humans (IARC classification Group 3). In October 2001, after a comprehensive review of more recent human epidemiology and animal toxicity data, IARC concluded that the classification of continuous filament glass fibres in Group 3 is appropriate, confirming that there is currently no evidence for the carcinogenicity of continuous filament glass fibres to humans (IARC Monograph Man-Made Vitreous Fibres Vol. 81, 2002).

The American Conference of Governmental Industrial Hygienists (ACGIH) has classified continuous filament glass fibres as not classifiable as human carcinogen. NTP (US National Toxicology Program) and OSHA (US Occupational Safety and Health Administration) do not list continuous filament glass fibres as a carcinogen. EPA (US Environmental Protection Agency) has not classified glass filaments for carcinogenicity.



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Continuous filament glass fibres are not classified under the European Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (CLP) and its subsequent amendments.

For some fibres, the Note R can be applied to avoid the classification as category 1B (Substances presumed to have carcinogenic potential for humans) or 2 (suspected human carcinogens) under the European Regulation (EC) No 1272/2008.

Those fibres are:

- Mineral wool, with the exception of those specified in the Annex VI of Regulation EC) (EC) No 1272/2008.
- Refractory Ceramic Fibres, Special Purpose Fibres, with the exception of those specified in the Annex VI of Regulation EC) (EC) No 1272/2008.
- Aluminosilicate refractory ceramic fibres
- Alkaline Earth Silicate Fibres
- Man-made vitreous (silicate) fibres with random orientation with alkaline oxide and alkali earth oxide ($\text{Na}_2\text{O}+\text{K}_2\text{O}+\text{CaO}+\text{MgO}+\text{BaO}$) content greater than 18 % by weight
- Zirconia Aluminosilicate Refractory Ceramic Fibres

Vetrotex does not produce any of these types of product.

As Continuous filament glass fibres are not classified under the European Regulation (EC) No 1272/2008 there is no need for application of note R.

A handwritten signature in dark ink, appearing to read 'A. Puech', with a horizontal line underneath.

Agnès Puech
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