



**Technical hybrid textiles made of FILAVA™ and Flax** is a brand new hybrid woven fabrics that can be used in a wide variety of applications due to its good specific strength and stiffness properties and limited environmental impact.

Ideal for semi-structural and esthetic applications this woven hybrid is a combination of sustainability and performance coupled with the ease of processing in a range of sectors such as automotive, sport and leisure, Consumer goods and Construction.

With a good production rate cost, it is mainly used with aim to increase the vibration damping and improving the acoustical insulation. The hybrid

woven fabrics are available in large range of surface density and fabric construction. The materials can be processed using standard composites manufacturing techniques including vacuum bagging, RTM, press molding and prepegging.

As a result of its especially engineered construction patterns, ISOMATEX's hybrid fabrics permit reduce the weight of the fiber-reinforcement in composites and process flawless properties allowing to achieve successfully the requested demand for specific end-use applications.

FILAVA™ and Flax industrial textiles hybrid and associated product's range offers various solutions to solve and address the high strength and stability requirements combined with its lightweight and acoustical insulation needs, with minimized impact on the environment. High mechanical properties of constituent yarns FILAVA™ as Tensile Strength and Young modulus and resistance to high temperature, chemical and alkali-resistance offers a unique combination of properties making FILAVA™ completely compliant to the technical requirements of such high-end applications.

As a reminder FILAVA™ is a direct roving made of enhanced volcanic rock filaments and manufactured in the melt spinning process. FILAVA™ roving is a unique product thanks to a genuine and innovative treatment of the raw material, volcanic rock, which being the major ingredient, is aggregated and enriched with various mineral additives with the aim to increase and guarantee its original mechanical and chemical properties as well to maintain the evenness of the required mechanical properties. The components used in the batch aggregation and the fabrication process are ISOMATEX's know-how and constitute its exclusive expertise.

Single-End and Multi-End assembly direct roving consist thousands of continuous filaments with elementary diameters from 9,0 to 11,0 µm. bonded into a single strand. A specially developed by matrices' type sizing is applied on the fiber, which guarantees an excellent infusion and resin-to-reinforcement adhesion.

FILAVA™ is unique due to its high strength, high elasticity and resistance to high temperature as well as to temperature's variation (contrarily to carbon which does not like thermal shocks). This compares well to existing high-end products (R - glassfibers, S - glassfibers).

**Storage and usage conditions.** ISOMATEX recommends storage in a cool and dry warehouse into the original packaging. For an optimal processing we recommend to use the product in ambient conditions (20 - 23 °C, 60 - 65% Relative Humidity).

Technical hybrid woven fabrics made of FILAVA™ and Flax need to be kept in the workshop at least 24 hours prior usage.



# PRODUCT INFORMATION AND TECHNICAL DATA SHEET

**Product description:**

Hybrid woven fabrics made of FILAVA™ and FLAX for technical textiles and high-performance composites (see ISOMATEX Sales department for more information)

**Article reference:**

**HF&F (FILAVA™ and Flax), ex.: HF&F 210.150. 0127.T2/2.IS65T**

Specific surface weight (gr/m<sup>2</sup>) \_\_\_\_\_

Length of roll (m) \_\_\_\_\_

Roll's width (cm.) \_\_\_\_\_

Weaving pattern \_\_\_\_\_

Sizing reference of FILAVA™ constituent yarns (\*) \_\_\_\_\_

**Properties:**

Volume density of constituent yarns (according to ASTM C693):

FILAVA™:

2,600 gr/cm<sup>3</sup>

FLAX (Commonly available):

1,450 gr/cm<sup>3</sup>

Specific surface weight:

from 210 up to 600 gr/m<sup>2</sup>

Construction (weaving pattern):

plain, twill, satin

**Packaging:**

Width (m):

1.270 mm.

Length (m):

full package is about 400 m. roll

The rolls are individually labelled and wrapped with stretched plastic film for protection and improved handling.

**Sizing:**

Engineered for high temperature applications and compliant to different organic (epoxy, polyester, vinyl ester, PA, PP, PEEK, BMI, etc.).

Content, % weight (loss of ignition, LOI): 0,4 – 1,0 % (according to customer's request)

Moisture content, % weight:

less than 1,0 %

**DISCLAIMER OF LIABILITY**

The above shown data is presented solely as a guide in the selection of a fiber reinforcement. The information mentioned in this leaflet is based on actual ISOMATEX' laboratory data and field test experience. Because of numerous factors in downstream processability affecting results, we consider this information to be reliable, but do not guarantee its applicability to the user's process or assume any liability arising out of its use or performance. The end-user, by accepting the products described herein, assume the responsibility for thoroughly testing any application to determine its compliance before committing to production. It is important for the end-user to determine the properties of its own commercial compounds when using this or any other fiber reinforcement.

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