

# Substrates

## – Non-Crimp Quadriaxial

TENRON®

### Product description

Non crimped (NCF) Quadriaxial fabric is made of TENRON's continuous filament with 4 layers of unidirectionally placed direct rovings respectively suitable for structural composites whilst absorbing the highest possible loads. The layers are stitched together by a polyester yarn.



### Article reference

**NCF (NON-CRIMP FABRIC), EX.:** **NCF QX BSB3 \_210. +45.100.1,27.IS65T**

- Batch composition's reference \_\_\_\_\_
- Specific surface weight (gr/m²) \_\_\_\_\_
- Construction Pattern (fibres orientation) \_\_\_\_\_
- Length of roll (m) \_\_\_\_\_
- Width of roll (m) \_\_\_\_\_
- Sizing reference(\*) \_\_\_\_\_

### Physical properties

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

2.600 gr/cm³

**Specific surface weight**

From 400 up to 1.200 gr/m²

**Thickness**

From 0,5 to 3,5 mm

**Standard Construction**

-45°; 0°; +45°; 90°

### Thermal properties (according to DIN ISO 7884)

**Melting point**

1.560 °C

**Transition temperature**

730 °C

**Softening point**

940 °C

### Sizing

**Content, % weight (loss of ignition, LOI)**

0,4 – 1,5 % (according to customer's request)

**Moisture content, % weight**

Less than 0,1 %

**Resin (matrix) compatibility**

Ceramic matrix materials, epoxy, polyester, vinylester, PA, PP, PEEK, BMI, etc..

### Mechanical properties

**Sized and dried roving**

(according to ISO 3341:2000)

- Tensile strength: 66 .... 80 cN/tex  
(depending on the sizing formulation):  
1.580 ... 2.000 MPa
- Elongation at break: 2,10%
- Tensile modulus ( Young or E-modulus):  
90 ... 100 GPa

**Impregnated strand (according to ASTM D2343 or ISO 9163:2005: )**

- Tensile strength: 3.400 ... 3.600 MPa
- Tensile modulus (Young or E-modulus):  
86 ... 97 GPa

### Operating thermal range (continuous)

From -200°C up to 850°C

## Standard Packaging

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

### Standard width (m)

1,27 m

### Length (m)

From 100 to 500 m

### Weight (kg)

Depending on length and surface weight

### Inner diameter of cardboard sleeve (cm)

15 cm (by default)

## Benefits of TENRON in end-applications

Please see our website, under "applications".

## Storage and usage conditions

ISOMATEX S.A. 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). TENRON roving need to be kept in the workshop at least 24 hours prior to usage.

## Sustainability

- ISOMATEX S.A. respects the environmental directives of the **European Union** and is **REACH compliant** (Regulation, Evaluation, Authorisation and Restriction of Chemicals).
- TENRON is fully and easily recyclable. For more information on **sustainability** and our **LCA**, please see our website and / or contact us.

For more detailed information, please contact the Isomatex Sales Department at **info@isomatex.com** or by phone at the following number: **+32 (0)81.72.86.86**

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