

NorGeoSpec 2012 Product Certificate

Quality Product Certification Separation and Filtration

This product has been found to be fit for use in accordance with NorGeoSpec 2012 System for the function given above.

| | |
|-------------------------|---------------------------|
| Certificate no.: | NGS-50407 |
| Date: | 05.09.2024 |
| Valid until: | 04.09.2026 |
| Manufacturer: | Tessilbrenta S.p.A. |
| Product: | HIPERTEX TB5 |
| Product Type: | GTX-N |
| Raw material: | PP |
| Function: | Separation and Filtration |

Issued by



Christian Recker, SINTEF Project Manager

Approved by



Arnstein Watn, Head of the Technical Committee



The products are regularly audited and tested to verify that the characteristics fulfil the NorGeoSpec 2012 Rev.: 01/14.12.2016 requirements.
Approved by the NorGeoSpec Technical Committee: 19.08.2024

Certificate no.: NGS-50407

Quality Product Certification Separation and Filtration

| Quality Product Certification | | | | DoP ¹⁾ | NGS | | | |
|--|-----------------|------------------|-------------------------|---------------------------------------|----------------------------------|--------------------------------------|----------------------------------|----------------|
| Characteristic | Test method | Unit | DoP declared mean value | NGS declared mean value ²⁾ | NGS max. tolerance ³⁾ | NGS declared tolerance ⁴⁾ | NGS control limits ⁵⁾ | |
| Mass per unit area | EN ISO 9864 | g/m ² | (-) | 340.0 | ± 34.0 | ± 34.0 | 306.0 - 374.0 | |
| Tensile strength | MD | EN ISO 10319 | kN/m | 28.30 | 28.30 | -2.83 | -2.80 | ≥ 26.05 |
| | CMD | EN ISO 10319 | kN/m | 29.40 | 29.40 | -2.94 | -2.80 | |
| Tensile strain at tensile strength | MD | EN ISO 10319 | % | 58.0 | 58.0 | -11.6 | -11.6 | ≥ 48.0 |
| | CMD | EN ISO 10319 | % | 62.0 | 62.0 | -12.4 | -12.4 | |
| Static puncture test (CBR test) | EN ISO 12236 | kN | 4.200 | 4.200 | -0.420 | -0.420 | ≥ 3.780 | |
| Dynamic perforation test | EN ISO 13433 | mm | 10.0 | 10.0 | +2.5 | +2.5 | ≤ 12.5 | |
| Energy index | NorGeoSpec 2012 | kN/m | (-) | 6.5 | | 0.0 | ≥ 6.5 | |
| Water permeability normal to the plane, without load | EN ISO 11058 | m/s | 0.0300 | 0.0300 | -0.0090 | -0.0090 | ≥ 0.0210 | |
| Characteristic opening size | EN ISO 12956 | µm | 75.0 | 75.0 | ± 22.5 | ± 22.5 | 52.5 - 97.5 | |
| Service life | | years | 50 | | | 50 | | |

1) Manufacturer's Declaration of performance acc. hEN standards

2) Manufacturer's declared values

3) Max. possible NorGeoSpec tolerance according to table 1 Part 1 and Part 2 of the guideline

4) Manufacturer's declared tolerance; the tolerance for the NorGeoSpec certificate shall be equal or less than the "NGS max. tolerance" (see table 1 Part 1 and Part 2 of the guideline)

5) NorGeoSpec control limit values regarding fitness for use; these "NGS control limits" are calculated based on the "NGS declared mean values" and the "NGS declared tolerances"; the product has to satisfy these "NGS control limits" during the NorGeoSpec certification process and random product testing

Quality Product Certification: Separation and Filtration

Application profile: **5**