

# NorGeoSpec 2012 Product Certificate



Certificate no.: NGS-50028      Manufacturer: Fiberweb Geosynthetic LTD      Raw material: PP  
 Date: 29.04.2016      Product: Terram NGS2      Function: Separation and Filtration  
 Valid until: 28.04.2018      Product Type: GTX-N

## Quality Product Certification Separation and Filtration

Characteristic	Standard	Unit	Declared value	Max. tolerance	Certification value
Mass per unit area	EN ISO 9864	g/m <sup>2</sup>	135	± 16	<b>119 - 151</b>

### Mechanical tests

Tensile strength	MD	EN ISO 10319	kN/m	11.0	- 1.0	<b>10.0</b>
	CMD	EN ISO 10319	kN/m	11.0	- 1.0	
Elongation at max. load	MD	EN ISO 10319	%	55.0	- 11.0	<b>44.0</b>
	CMD	EN ISO 10319	%	55.0	- 11.0	
Static puncture test		EN ISO 12236	kN	1.600	- 0.160	<b>1.440</b>
Dynamic perforation resistance		EN ISO 13433	mm	28	7	<b>35</b>
Energy index		NorGeoSpec 2012	kN/m	2.1	0.0	<b>2.1</b>

### Hydraulic tests

Velocity index		EN ISO 11058	m/s	0.100	- 0.030	<b>0.070</b>
Characteristic opening size		EN ISO 12956	µm	90	± 18	<b>72-108</b>

### Durability (Declared value)

Service life			years	25		
--------------	--	--	-------	----	--	--

### Quality Product Specification

Separation and Filtration      Application profile: **2**

Issued by

Christian Recker, NorGeoSpec 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 requirements.  
 Approved by the NorGeoSpec Technical committee: 03.03.2016

# NorGeoSpec 2012 Product Certificate



Certificate no.: NGS-50029      Manufacturer: Fiberweb Geosynthetic LTD      Raw material: PP  
 Date: 29.04.2016      Product: Terram NGS3      Function: Separation and Filtration  
 Valid until: 28.04.2018      Product Type: GTX-N

## Quality Product Certification Separation and Filtration

Characteristic	Standard	Unit	Declared value	Max. tolerance	Certification value
Mass per unit area	EN ISO 9864	g/m <sup>2</sup>	190	± 19	<b>171 - 209</b>

### Mechanical tests

Tensile strength	MD	EN ISO 10319	kN/m	16.0	- 1.0	<b>15.0</b>
	CMD	EN ISO 10319	kN/m	16.0	- 1.0	
Elongation at max. load	MD	EN ISO 10319	%	50.0	- 10.0	<b>40.0</b>
	CMD	EN ISO 10319	%	50.0	- 10.0	
Static puncture test		EN ISO 12236	kN	2.600	- 0.260	<b>2.340</b>
Dynamic perforation resistance		EN ISO 13433	mm	21	5	<b>26</b>
Energy index		NorGeoSpec 2012	kN/m	3.2	0.0	<b>3.2</b>

### Hydraulic tests

Velocity index		EN ISO 11058	m/s	0.090	- 0.027	<b>0.063</b>
Characteristic opening size		EN ISO 12956	µm	90	± 18	<b>72-108</b>

### Durability (Declared value)

Service life			years	25		
--------------	--	--	-------	----	--	--

### Quality Product Specification

Separation and Filtration      Application profile: **3**

Issued by

Christian Recker, NorGeoSpec 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 requirements.  
 Approved by the NorGeoSpec Technical committee: 03.03.2016

# NorGeoSpec 2012 Product Certificate



Certificate no.: NGS-50041      Manufacturer: Fiberweb Geosynthetic LTD      Raw material: PP  
 Date: 26.08.2016      Product: Terram NGS4      Function: Separation and Filtration  
 Valid until: 25.08.2018      Product Type: GTX-N

## Quality Product Certification Separation and Filtration

Characteristic	Standard	Unit	Declared value	Max. tolerance	Certification value
Mass per unit area	EN ISO 9864	g/m <sup>2</sup>	260	± 26	<b>234 - 286</b>

### Mechanical tests

Tensile strength	MD	EN ISO 10319	kN/m	22.0	- 2.0	<b>20.0</b>
	CMD	EN ISO 10319	kN/m	22.0	- 2.0	
Elongation at max. load	MD	EN ISO 10319	%	45.0	- 9.0	<b>36.0</b>
	CMD	EN ISO 10319	%	45.0	- 9.0	
Static puncture test		EN ISO 12236	kN	3.500	- 0.350	<b>3.150</b>
Dynamic perforation resistance		EN ISO 13433	mm	17	4	<b>21</b>
Energy index		NorGeoSpec 2012	kN/m	4.5	0.0	<b>4.5</b>

### Hydraulic tests

Velocity index		EN ISO 11058	m/s	0.070	- 0.021	<b>0.049</b>
Characteristic opening size		EN ISO 12956	µm	60	± 18	<b>42-78</b>

### Durability (Declared value)

Service life			years	25		
--------------	--	--	-------	----	--	--

### Quality Product Specification

Separation and Filtration      Application profile: **4**

Issued by

Christian Recker, NorGeoSpec 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 requirements.  
 Approved by the NorGeoSpec Technical committee: 03.03.2016