

NorGeoSpec 2012 Product Certificate

Quality Product Certification Reinforcement

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

Certificate no.:	NGS-50082
Date:	09.05.2017
Valid until:	08.05.2019
Manufacturer:	Huesker Synthetic GmbH
Product:	Stabilenka 1000/100
Product Type:	GTX-K
Raw material:	PET
Function:	Reinforcement (Main function), Separation and Filtration (Additional functions)

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: 09.05.2017

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Characteristic		Standard	Unit	Declared value	Max. tolerance	Certification value
Mass per unit		EN ISO 9864	g/m ²	1800	± 180.0	1620.0 – 1980.0
Dimension		NorGeoSpec 2012				
Tensile elements	MD	Annex F				
	CMD	Annex F				
Grid apertures	MD	Annex F	mm			
	CMD	Annex F	mm			
Mechanical tests						
Nominal tensile strength	MD	EN ISO 10319	kN/m	1000.00	0.00	1000.00
	CMD	EN ISO 10319	kN/m			
Tensile strain at nominal strength	MD	EN ISO 10319	%	9.0	± 1.8	7.2 – 10.8
	CMD	EN ISO 10319	%			
Tensile stiffness at 2% tensile strain	MD	EN ISO 10319	kN/m	7500	0	7500
	CMD	EN ISO 10319	kN/m			
Tensile stiffness at 5% tensile strain	MD	EN ISO 10319	kN/m	10000	0	10000
	CMD	EN ISO 10319	kN/m			
Tensile stiffness at 10% tensile strain	MD	EN ISO 10319	kN/m			
	CMD	EN ISO 10319	kN/m			
Static puncture test		EN ISO 12236	KN	15.000	-1.500	13.500
Dynamic perforation resistance		EN ISO 13433	mm	14	2	16
Hydraulic tests						
Permeability normal to the plane without load		EN ISO 11058	m/s	0.009	-0.003	0.006
Characteristic opening size		EN ISO 12956	µm	120	30	90 – 150
Durability (Declared value)						
Service life			years	<input type="checkbox"/> 25	<input type="checkbox"/> 50	<input type="checkbox"/> 100
Information about reduction factors are given on page 3 of this certificate.						

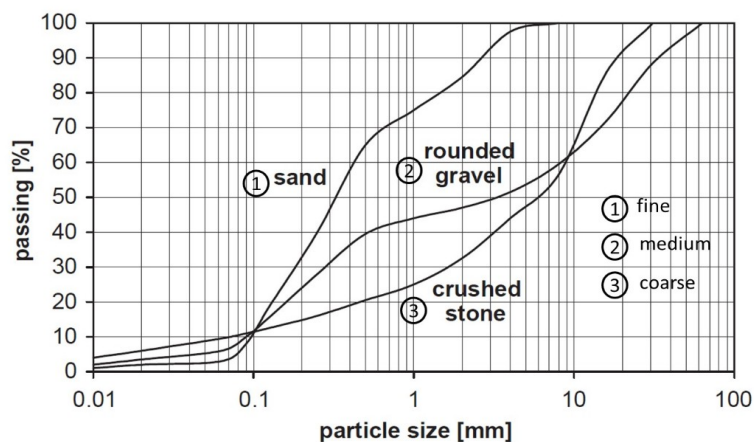
Declared values Reinforcement

Declared values						
Reduction factor for creep rupture ^{1) 2)}	RF _{CR}	1.52	Remarks: 120 years, BBA Certificate 13/4979			
Reduction factor for environmental effects	RF _{CH}		Remarks:			
Chemical			Application in natural soils at a pH-value between 4 and 9 and a soil temperature <25°C			
Oxidation		n. r.				
Hydrolysis		1.03				
Reduction factor for weathering	RF _W		Remarks:			
Or max. exposure time						
1 month						
2 weeks						
1 day		x				
Reduction factor for installation damage	RF _{ID,fine}	1.12	RF _{ID,medium}	1.09	RF _{ID,coarse}	1.06
Used test method	Test report EMPA No. 201666-E25					

Compaction: Ride-on steel-wheeled roller (9500 kg) + vibratory capability

M_{E1} -value ground level 90 MN/m²; 1st layer 12 cm - geosynthetic - 2nd layer 23 cm

Particle size distribution:



¹⁾ product range

²⁾ not required if used as base course layers

n.r. = not required

n/a = not applicable