

ANALYSIS REPORT
SCC Accreditation No.: 40‡

Date: February 10, 2022
 Report: 4232-055S-1A-en

IDENTIFICATION: Geogrid GG4040: #20220119
 Received: February 1, 2022

STANDARD:

TEST: Tensile Properties of Geogrids by the Single or Multi-Rib Tensile Method; Method A (Single Rib) ASTM D6637/D6637M-15 Method A

TEST CONDITIONS: Conditioning atmosphere: 21±2°C, 60±10% R.H.;
 Apparatus used: Dynamometer with a Constant Rate of Extension (CRE);
 5 test specimens per direction; Speed: 10% / min;
 DEMGEN clamps ;
 Clamping pressure (bar): 100
 Elongation measured by displacement of the cross head ;
 Date of test: February 8, 2022

RESULTS:	Individual Data					Avg.	S.D.	% CV
1-MACHINE DIRECTION								
1-Gage length (mm):	218	218	219	220	220			
1-Maximum rib tensile strength (N):	1309	1275	1408	1396	1388	1 355	59	4.4
1-Maximum rib tensile strength (lbf):	294.3	286.5	316.6	313.9	312.0	304.7	13.4	4.4
1-Elongation at maximum strength (%):	16.2	14.3	15.4	15.4	15.6	15.4	0.7	4.5
1-Type of failure (1= breaking, 2= tearing apart):	2	2	2	2	2			
1-Location of the failure (A= near or B= in the junction, C= in the rib):	B	B	B	B	B			
1-Tensile Strength at 2% Strain (kN/m)*:	8.3	8.2	8.4	8.5	8.4	8.4	0.1	1.4
1-Tensile Strength at 5% Strain (kN/m)*:	12.4	12.3	12.8	12.8	12.9	12.6	0.3	2.1
1-Ultimate Tensile Strength (kN/m)*:	41.8	40.7	45.0	44.6	44.3	43.3	1.9	4.4
2-CROSS DIRECTION								
2-Gage length (mm):	219	219	219	219	219			
2-Maximum rib tensile strength (N):	951	960	967	999	1028	981	32	3.3
2-Maximum rib tensile strength (lbf):	213.8	215.9	217.5	224.5	231.1	220.6	7.1	3.2
2-Elongation at maximum strength (%):	19.0	20.1	21.2	21.6	19.8	20.3	1.1	5.2

Prepared by:

Gabriel Ferland
 Gabriel Ferland, Tech.
 Technician

Approved by:

Maxime Côté
 Maxime Côté, Tech.
 Project Leader

Date: February 10, 2022

For any information concerning this report, please contact Maxime Côté.

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TEST: Tensile Properties of Geogrids by the Single or Multi-Rib Tensile Method; Method A (Single Rib) ASTM D6637/D6637M-15 Method A

RESULTS (CONT):	Individual Data					Avg.	S.D.	% CV
2-Type of failure (1= breaking, 2= tearing apart):	2	2	2	2	2			
2-Location of the failure (A= near or B= in the junction, C= in the rib):	A	B	A	A	A			
2-Tensile Strength at 2% Strain (kN/m)*:	5.7	6.0	5.7	6.0	6.5	6.0	0.3	5.5
2-Tensile Strength at 5% Strain (kN/m)*:	8.4	8.3	8.4	8.4	8.6	8.4	0.1	1.3
2-Ultimate Tensile Strength (kN/m)*:	39.0	39.4	39.7	41.0	42.2	40.3	1.3	3.3

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STANDARD:

TEST: Individual Geogrid Junction Strength ASTM D7737/D7737M-15

TEST CONDITIONS: Conditioning atmosphere: 21±2°C, 60±10% R.H.;
 Apparatus used: Dynamometer with a Constant Rate of Extension (CRE);
 Speed: 50 mm/min;
 10 test specimens per direction;
 Type of junction clamp: A
 Date of test: February 9, 2022

RESULTS:	Individual Data					Avg.	S.D.	% CV
1-MACHINE DIRECTION								
1-Number of Ribs per unit width (ribs/m):	32.0							
1-Junction Strength per rip (kN):	0.116	0.098	0.106	0.102	0.119	0.106	0.009	8.0
	0.098	0.095	0.117	0.105	0.107			
1-Junction Strength per rib (lbf):	26.1	22.0	23.8	22.9	26.8	23.9	1.9	8.1
	22.0	21.4	26.3	23.6	24.1			
1-Junction Strength per Unit Width (N/m):	3396							
1-Junction Strength per Unit Width (lbf/in):	19.4							
2-CROSS DIRECTION								
2-Number of Ribs per unit width (ribs/m):	41.0							
2-Junction Strength per rib (kN):	0.148	0.142	0.109	0.126	0.136	0.132	0.016	12.2
	0.158	0.119	0.110	0.140	0.133			
2-Junction Strength per rib (lbf):	33.3	31.9	24.5	28.3	30.6	29.7	3.6	12.2
	35.5	26.8	24.7	31.5	29.9			
2-Junction Strength per Unit Width (N/m):	5421							
2-Junction Strength per Unit Width (lbf/in):	31.0							

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