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, Tech.
Technician

Approved by:
Maxime Côté, Tech.
Project Leader

Date: February 10, 2022

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STANDARD:

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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Technician

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Project Leader

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