



Jun.08th, 2020

Feicheng Lianyi Engineering 肥城联谊工程塑料有限公司
Hi-tech Development Zone
Feicheng City, Shandong, China 271608

Re: Final LABORATORY TEST REPORT 最终实验室检测报告



Dear Henry:

Thank you for consulting TRI Suzhou for your material testing needs.

感谢选用 TRI 苏州实验室为您检测材料

Enclosed is the final laboratory report for the Conformance testing of one (1) geogrid sample.

附上一份一个土工格栅的符合性实验室最终检测报告

PROJECT NAME 项目名称: Geogrid testing 土工格栅检测 DATE REPORTED 报告日期: Jun. 08th, 2020

REFERENCE TRI JOB NO. 涉及工作编号: SCH20011

DATE RECEIVED 接收日期: May 19th, 2020

SAMPLE(S) SENT BY 送样人: Feicheng Lianyi Engineering 肥城联谊工程塑料有限公司

SAMPLE IDENTIFICATIONS 样品信息:

SAMPLE ID 样品 ID: ... CONTROL NUMBER 受控编号: ...
Asphalt Reinforcement Polyester Geogrid Geocomp... 50/50KN
(Polyester Geogrid 50/50KN Knitted with PP Sp...
Geotextile 30g/m2 Impregnated By Bitumen) 86583
涤纶纤维土工格栅 50/50KN 缝合涤纶热轧 30g/m2

TESTS REQUIRED / PERFORMED 检测需求/执行:

Table with 2 columns: TEST METHOD 检测方法 and DESCRIPTION 描述. Includes EN ISO 10319, EN ISO 9864, EN ISO 3146, ASTM D 1204, ASTM D 5262 and their corresponding descriptions like Tensile strength, Mass per Unit Area, etc.

TEST RESULTS 检测结果: The test results are summarized in the attached Table 1. 检测结果参见附表 1.

Respectfully, 此致

TRI Geosynthetic Testing and Services (Suzhou) Co., Ltd.

Connie Wang
Quality Assurance

Cora Queja
General Manager

Signatures are on file

It shall be noted that the sample/s tested is/are believed to be true representatives of the material produced under the designation herein stated. In addition, the attached laboratory tests results are considered indicative only of the quality of samples/specimens that were actually tested. The appropriate test methods hereby employed are based on the current and accepted industry practices. TRI neither accepts responsibility for nor makes claims to the intended final use and purpose of the material. The test data and all associated project information shall be held confidential and not to be reproduced and/or disclosed to other parties except in full and with prior written approval from the client or any pertinent entity duly authorized by the respective client. It is our policy to keep physical records of each job for five (5) years commencing from the date of receipt of the samples and keep its corresponding electronic file for seven (7) years. Retained conformance samples are disposed of after one (1) month. On the other hand, should you need us to keep them at a longer period, please advise us in writing.

需说明的是, 所送检样品会被认为是根据设计所生产材料的真实代表。另外, 所附实验室检测结果仅表明所检测样品质量。此次合适的检测方法的采用是根据目前通用行业实际情况。TRI 既不对样品接受负责也不对材料的最终使用目的及用途发表声明。检测数据及相关项目信息为商业秘密, 不得复制, 非经客户书面同意或授权同意不得外泄给其他机构。我司自接收样品日起保存纸质记录 5 年, 保存相应电子记录 7 年。样品留存 1 个月废弃。如需保存更长时间, 请以书面方式提前通知

MATERIAL PROPERTIES
 CLIENT: Feicheng Lianyi Engineering
 PROJECT: Geogrid testing

Date Received: 2020.05.19
 Date Reported: 2020.06.08
 Client Sample ID: Asphalt Reinforcement polyester Geogrid Geocomposite 50/50-30
 (Polyester Geogrid 50/50KN Knitted with PP Spunbond Nonwoven Geotextile 30g/m² Impregnated By Bitumen) 涤纶纤维土工格棚50/50KN复合丙纶热扎无纺布 30g/m²
 Material Description: Geogrid

QC'd By: *Carrie J. Jeff*
 TRI Job No.: SCH20011
 TRI Control No.: 86583

SPECIMENS

METHOD	DESCRIPTION	1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs. (Note 1)	
ISO 9864*	<p>Dimensional Stability 尺寸稳定性 (percent %)</p> <p>Mass per unit Area (grams/cm²) 单位面积质量 (克/平方厘米) Specimens were tested in accordance with ISO 9864, and conditioned in the laboratory for 1 hr at 20±2°C (65±4°F). 采用 ISO 9864 测试样品, 在 20±2°C (65±4°F) 的实验室室内调节 1 小时 Specimen Size: 103.2 cm² 103.2 平方厘米</p>	0.029	0.030	0.031	0.033	0.033	0.033	0.033	0.033	0.033	0.031	0.032	0.031	0.001	0.029	0.033	
ASTM D1204*	<p>Wide Width Tensile Properties 宽条拉伸</p> <p>MD Number of Ribs per Specimen: 沿机每个样品肋条数: MD Number of Ribs per foot: 沿机每英尺肋条数</p>	5	5	5	5	5	5	5	5	5	5	0.899	0.066	0.852	0.946		
ISO 10319A	<p>Wide Width Tensile Properties 宽条拉伸</p> <p>MD Ultimate Strength (lbs) 沿机极限强度 (磅) MD Ultimate Strength (N) 沿机极限强度 (牛) MD Ultimate Strength (lbs/ft) 沿机极限强度 (磅/英尺) MD Ultimate Strength (kN/m) 沿机极限强度 (千牛/米)</p>	3182	2980	3277	3060	3277	3060	3277	3060	3277	3060	3056	123	2936	3196		
	<p>TD Number of Ribs per Specimen: 非沿机每个样品肋条数 TD Number of Ribs per foot: 沿机每英尺肋条数</p>	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	4658	187	4476	4872		
	<p>MD Break Elongation (%) 沿机断裂伸长率</p>	9.21	9.78	9.65	9.97	9.97	9.97	9.97	9.97	9.97	9.97	9.55	0.36	9.13	9.97		

(Continued on next page)

(Sheet 1 of 2)

LEGENDS:
 MD - MACHINE DIRECTION
 TD - TRANSVERSE DIRECTION

TABLE 1-表1

MATERIAL PROPERTIES
 CLIENT: Feicheng Liany Engineering
 PROJECT: Geogrid testing

Date Received: 2020.05.19
 Date Reported: 2020.06.08
 Client Sample ID: Asphalt Reinforcement Polyester Geocomposite 50/50-30
 (Polyester Geogrid 50/50KN Knitted with PP Spunbond Nonwoven Geotextile 30g/m2 Impregnated By Bitumen) 涤纶纤维土工格栅50/50KN缝合丙纶热轧无纺布30g/m2
 Material Description: Geogrid

QC'd By: *Connie Li*
 TRI Job No.: SCH20011
 TRI Control No: 86583

METHOD	DESCRIPTION	SPECIMENS										Proj. Specs. (Note 1)			
		1	2	3	4	5	6	7	8	9	10		Avg.	Std. Dev.	Min
EN ISO 3146A	TD Ultimate Strength (lbs) 非沿机极限强度 (磅)	2709	2460	2463	2543	2612						2558	106	2460	2709
	TD Ultimate Strength (N) 非沿机极限强度 (牛)	12050	10943	10956	11312	11619						11376	470	10943	12050
	TD Ultimate Strength (lbs/ft) 非沿机极限强度 (磅/英尺)	4129	3749	3754	3876	3981						3898	161	3749	4129
	TD Ultimate Strength (kN/m) 非沿机极限强度 (千牛/米)	60.6	55.0	55.08	56.87	58.4						57.3	2.4	56	61
ASTM D 5262*	TD Break Elongation (%) 非沿机断裂伸长率	9.77	9.34	9.93	9.77	9.77						9.52	0.34	9.08	9.93
	Melting Temperature (°C) 融化点	> 350									350	NA			
	Creep Strain@50% tensile strength	1.27	1.59			2.8					1.44	0.18	1.27	1.67	

* Tested in TRI CA lab
 (End of Table 1)

(Sheet 2 of 2)

Note 1 : The Project Specification values reflected here are provided by the Client. The specimens were tested to evaluate the creep strain and 60% of the ultimate strength for 20,000 hours.
Note 2 : The specimens were tested to evaluate the creep strain and 60% of the ultimate strength for 20,000 hours.

By accepting the data and results presented on this report, the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all claims, damages, losses, and expenses, including reasonable attorneys' fees, in excess of the aforementioned limit, to the extent that such claims, damages, losses, and expenses are caused in whole or in part by the negligence of TRI Environmental, Inc. or any of its employees, agents, or subcontractors. TRI Environmental, Inc. does not warrant the accuracy of the data and results presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all claims, damages, losses, and expenses, including reasonable attorneys' fees, in excess of the aforementioned limit.

LEGENDS:
 MD - MACHINE DIRECTION
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