Certificate of acceptance of a geosynthetic material

Product:	**ParaLink series uniaxial geogrid**	**Grades 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800, 850, 900, 950, 1000, 1050, 1100 1150, 1200, 1250, 1300, 1350, 1500, 1600**
Expiry date:	**28/02/2027**	**subject to the conditions of expiry of certificate below**

Certificate history

Certificate no.	Issue no.	Date	Issue history
10	1	17/05/17	First accepted for use
	2	11/11/2020	Resubmission accepted for use
	3	16/06/2023	Updated ISO certificate for India manufacturing plant
	4	06/09/2023	Updated QMS certificate for Geofabric NZ
	5	28/02/2024	Renewal followed by the expiry on 29/10/2023

Manufacturer

Maccaferri Environmental Solutions Pvt Ltd
D-40 Ranjangaon, MIDC
Pune
India

Contact: Ratnakar Mahajan
Phone: +91-2138-393000
E-mail: r.mahajan@maccaferri.com

Supplier

Geofabrics
14 Goodman Place
Penrose
Auckland 1642
New Zealand

Contact: Gordon Stevens
Telephone: +64 9 634 6495
E-mail: g.stevens@geofabrics.co.nz

Product description

A geogrid made up of planar structures consisting of a uniaxial array of composite geosynthetic strips. Every longitudinal strip has a core of high tenacity polyester yarns encased in a polyethylene sheath; the single strips are connected by cross-laid polyethylene strips to form a grid configuration.

Product appearance

Material properties

Refer to the appended summary table.

Packaging

The manufacturer shall identify each roll of product with the manufacturer's name and plant, product specification number, grade and batch identification, date code, and nominal dimensions. Labels shall be permanently fixed to each roll.

The manufacturer shall furnish complete written instructions for the storage, handling and installation of the product with the conditions of this warranty.

Basis and scope of acceptance

Review of the Geofabrics Ltd submission for ParaLink geogrid renewal dated 24 November 2023

Scope of acceptance

The products above are accepted for use on Waka Kotahi projects within the defined scope of acceptance and any specific conditions of this certificate. Failure to abide by the certificate requirements may lead to the Waka Kotahi acceptance and the certificate becoming invalid.

This acceptance is issued in accordance with clause 6.8.1 of the 3rd Edition of the Waka Kotahi Bridge Manual and applies only to product sourced from the stated manufacturer.

This acceptance excludes any mechanically stabilised walls facing systems and connection between the facing system and the composite geotextile. Facing systems and connections, where applicable, shall be specifically designed on a project by project basis.

This acceptance relates to the ParaLink product only when used on Waka Kotahi projects for the specific use mentioned in the type of acceptance stated below. It does not remove the requirement for detailed design of the product.

Type of acceptance

Accepted for specific use: Soil reinforcement
~~Accepted for provisional use~~
~~Not accepted / rejected~~

Product details supplied with the manufacturer's / supplier's submission

Refer to the appended ParaLink technical data sheets.

Specific Conditions of Use

1. Users of the product are responsible for ensuring compliance with the certificate conditions. If a condition is not understood, guidance should be sought from Waka Kotahi.
2. The supplier shall provide product specifications and user manuals to purchasers / users of the product
3. The supplier shall notify Waka Kotahi within 20 working days of any deficiencies affecting the product quality, functionality and safety integrity (including corrective actions undertaken or proposed)
4. The supplier shall notify the Waka Kotahi within 20 working days of any intended change of the certified product including but not limited to:
   - a change of the product configuration (to the actual product or its application)
   - a variation to or addition of manufacturing locations or process
   - a change in the name or ownership of the manufacturing company.
5. Renewal of this certificate will be required if product specifications, product parameters, manufacturing standards or the manufacturer / supplier of the product change
6. Users receiving this product are responsible for ensuring that it is fit for purpose and that application of use complies with the scope from the Waka Kotahi acceptance
7. Anyone aware of any defect of the certified product (manufacture fault or any other defect) should notify the supplier immediately and Waka Kotahi in writing within 10 working days
8. Anyone becoming aware of a change to the product configuration (to the actual product or its application) and a variation to or addition of manufacturing locations or processes, should inform Waka Kotahi in writing within 10 working days
9. This acceptance is given for the specified product and its use as specified in the product configuration section of this certificate only
10. The product must be used / installed in accordance with the product installation specifications and relevant Waka Kotahi specifications. Where there is discrepancy between the product manual(s) and Waka Kotahi specifications and standards, the users must notify Waka Kotahi and seek resolution
11. Reference to this acceptance certificate should be given in project drawings and specifications.

Construction Quality Assurance Requirements

Installers must ensure that they are familiar with relevant conditions, requirements and limitations of the product.

Verification of conformance of geosynthetics delivered to Waka Kotahi project sites with the manufacturer / supplier's specifications and the geosynthetic parameters advised by the manufacturer / supplier is the contractor's responsibility. Procedures specified in *ASTM D4759 Standard practice for determining the specification conformance of geosynthetics* can be used for this purpose.

The users shall review and verify submittals and sample information from the supplier. The users shall proceed with ordering the product only after the submittals have been reviewed.

The product delivered to the site shall be visually inspected by the users to check that the delivered product complies with the product description given in supplier's submittals and that labelling on the product confirms this. If changes in the product occur prior to the acceptance of the product by the user, the product shall be tested and evaluated with respect to the requirements of the contract documents. Product not meeting the requirements shall be removed from the site and replaced.

The manufacturer shall certify the quality of the rolls of the product. As a minimum, the manufacturer shall provide quality control certificates for each batch of product and each shift's production. These quality control certificates shall be signed by an officer of the manufacturer and provided to the user at least three weeks prior to the installation of the product.

The quality control certificate shall include:

- roll numbers and identification
- sampling procedures
- result of quality control tests, including a description of test methods used.

Expiry of Acceptance

This acceptance expires on **28 February 2027** unless revoked and replaces any previous acceptance.

The current ISO9001:2015 certification expires on **15 June 2026** for the Maccaferri Environmental Solutions Pvt Ltd manufacturing plant and on **15 October 2026** for Geofabrics NZ Ltd. This acceptance expires for this plant for product manufactured after the expiry date unless the certificate is renewed and provided to Waka Kotahi.

This acceptance will also expire if BBA Certificate 03/4065 dated **16 March 2018** becomes invalid in accordance with its Clause 15.3.

The accepted product must not be deployed on state highway projects after the expiry date of acceptance unless a further period of acceptance is granted or the product has been formally included in relevant Waka Kotahi specifications. Failure to submit a renewal as required will void the product from the Waka Kotahi accepted product list.

Should Waka Kotahi discover that information on material composition and properties (including test data), manufacturing and quality assurance procedures or any other material information supplied with the submission were flawed, or that in-service performance of the product reveals unacceptable problems, or that the product being supplied and / or marketed differs significantly from the product that was approved, it reserves the right, at any time, to modify or revoke its acceptance of the product.

Authorised by the Lead Advisor Structures
Transport Services
Waka Kotahi NZ Transport Agency

Appendix A – Summary table

PARALINK Grade	Avg. Tensile strength - MD	Tensile strength at 2% strain - MD	Strip reinforcement polymer	Strip coating polymer	Mass per unit area	Roll width	Roll length
	kN/m	kN/m	-	-	g/m²	m	m
100	103	23	PET	PE	425	4.5	200
150	154	34	PET	PE	515	4.5	200
200	206	46	PET	PE	590	4.5	200
250	257	57	PET	PE	697	4.5	200
300	309	69	PET	PE	789	4.5	200
350	360	80	PET	PE	890	4.5	150
400	412	92	PET	PE	1014	4.5	150
450	463	103	PET	PE	1124	4.5	130
500	515	115	PET	PE	1219	4.5	130
550	566	127	PET	PE	1410	4.5	100
600	612	138	PET	PE	1507	4.5	100
650	669	150	PET	PE	1681	4.5	100
700	721	161	PET	PE	1835	4.5	50
750	772	173	PET	PE	1970	4.5	50
800	826	184	PET	PE	2135	4.5	50
850	875	196	PET	PE	2221	4.5	50
900	927	207	PET	PE	2351	4.5	50
950	980	219	PET	PE	2543	4.5	50
1000	1038	232	PET	PE	2616	4.5	50
1050	1081	242	PET	PE	2695	4.5	50
1100	1133	254	PET	PE	2829	4.5	50
1150	1184	265	PET	PE	3018	4.5	50
1200	1236	277	PET	PE	3171	4.5	50
1250	1287	289	PET	PE	3254	4.5	50
1300	1339	300	PET	PE	3475	4.5	50
1350	1390	312	PET	PE	3674	4.5	50
1500	1545	346	PET	PE	3785	4.5	50
1600	1648	369	PET	PE	4005	4.5	50

(1) Short-term tests in accordance with EN ISO 10319:2015. The values given are mean values of ultimate strength and tolerance values correspond to the 95% confidence level to establish the characteristic short-term tensile strength (T_{ch}) in accordance with EN 13251:2016;