

Certificate of acceptance of a geosynthetic material

Product: Paraweb Series Geostrips With sheath type 2E, 2D and 2S, grades 30, 40, 50, 70, 75, 100
With sheath type ME, MD, MS, grades 27, 36, 37.5, 45, 54, 63

Expiry date: 02/03/2026 subject to the conditions of expiry of certificate below

Certificate history

Certificate no.	Issue no.	Date	Issue history
13	1	03/02/2023	Submission accepted for use
	2	16/06/2023	Updated ISO certificate for India Manufacturing Plant

Manufacturers

Maccaferri Environmental Solutions Pvt Ltd
D 40 MIDC
Ranjangaon
Pune
India

Contact: Anil Tadmari
Telephone: +91 9552003855

Linear Composites Ltd
Vale Mills
Aokworth
West Yorkshire
United Kingdom

Contact: Joesph Whitaker
Telephone: +44 (0) 1535 643363
Mobile: +44 (0) 7814852246
E-mail: j.whitaker@maccaferri.com

Supplier

Geosynthetic Partners International Ltd
Unit 1, 74 Kitchener Road
Milford
Auckland 0620
New Zealand

Contact: Chris Brockliss
Telephone: +64 21 2703139
E-mail: chrisbrockliss@gpil.co.nz

Product description

Paraweb is a polymer strap manufactured from high tenacity polyester yarn tendons encased in a durable polyethylene sheath. Paraweb is used for soil reinforced retaining walls and bridge abutments.

Product appearance



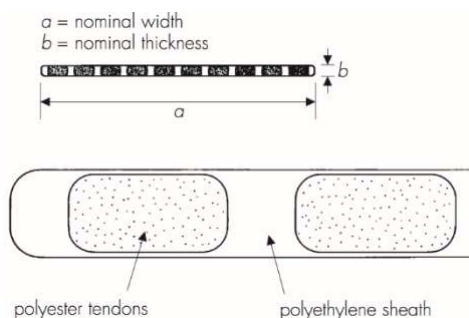
Material properties

Grade	Characteristic short-term tensile strength for design	Characteristic short-term tensile strength for design
	T_{char} (kN)	T_{char} (kN)
	Sheath type	Sheath type
	2E/2D	2S
30	30.16	33.75
40	40.20	45.00
50	50.27	56.25
70	70.38	78.78
75	75.40	84.35
100	100.54	112.50
	ME/MD	MS
27	27.14	27.14
36	36.18	36.18
37.5	37.70	37.70
45	45.22	45.22
54	54.27	54.27
63	63.31	63.31

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.



Grade	Coil Length (m)	Nominal mass (kg)			Nominal width (a) (mm)			Nominal thickness (b) (mm)		
		Sheath type			Sheath type			Sheath type		
		2E	2D	2S	2E	2D	2S	2E	2D	2S
30	100	8.7	12.7	14.8	83	83	85	1.5	1.9	2.2
40	100	10.9	16.7	18.5	83	84	85	1.7	2.2	2.5
50	100	12.4	19.5	23.0	87	90	90	2.0	2.5	3.5
70	100	16.7	24.1	28.6	90	90	90	2.5	3.0	4.0
75	100	17.9	25.6	30.0	90	90	90	2.6	3.1	4.1
100	100	24.1	31.1	37.7	90	90	90	3.1	3.7	6.0
		ME	MD	MS	ME	MD	MS	ME	MD	MS
27	100	6.4	8.5	9.4	46	47	48	1.8	2.2	2.5
36	100	8.1	10.8	12.0	47	49	49	2.2	2.8	3.0
37.5	100	8.2	10.9	12.1	47	49	49	2.3	2.9	3.1
45	100	10.1	13.2	14.5	48	48	49	2.7	3.3	3.6
54	100	12.7	17.4	21.4	63	65	65	2.5	3.2	3.6
63	100	14.4	20.4	22.7	63	65	66	2.8	3.7	3.9

Basis and scope of acceptance

Review of the Geosynthetic Partners International Ltd submission dated February 2023, BBA HAPAS Certificate 12/H191 dated 18 June 2019, and additional information supplied dated 16 June 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 Paraweb product only when used on Waka Kotahi projects. It does not remove the requirement for detailed design of the soil reinforcement, facing panels and the connection between.

Type of acceptance

Accepted for specific use: Soil reinforcement

~~Accepted for provisional use~~

~~Not accepted / rejected~~

Product details supplied with the manufacturer / supplier's submission

Refer to the BBA HAPAS Certificate 12/H191 for product details.

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 **02 March 2026** and replaces any previous acceptance.

The current ISO9001:2015 certification expires on **15 June 2026** for the India manufacturing plant and on **31 July 2025** for the UK manufacturing plant. This acceptance expires for the respective plants and for product manufactured after the expiry date unless the respective certificates are renewed and provided to Waka Kotahi.

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