



## Certificate of acceptance of a geosynthetic material

**Product:**           **StrataTex HSR**                           **Grades HSR 100/50, 150/50,**  
                          **geotextile series**                           **200/50, 300/50, 400/50, 600/50,**  
                                                                                                                          **800/50, 1000/100, 1200/100,**  
                                                                                                                          **1400/100, 1800/100**

**Expiry date:**   **9 January 2027**                           **(subject to conditions of**  
                                                                                                                          **expiry of certificate below)**

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### Certificate history

Certificate no.	Issue no.	Date	Issue history
16	1	09/01/2024	First accepted for use

### Manufacturer

Strata Geosystems (India) Pvt. Ltd  
Survey No. 284, Off Bhilad–Sanjan Road,  
Village – Daheli, Dist – Valsad  
Gujarat – 396 105  
India

Contact: M V Ragavendra Pavan  
Telephone: +91 9963863707  
Email: ragavendra.pavan@strataglobal.com

### Supplier

Cirtex Industries Ltd  
PO Box 470  
Thames 3540  
New Zealand

Contact: Michael Sorensen  
Telephone: +64 7 868 9909  
Email: michael@cirtex.co.nz

### Product description

StrataTex HSR geotextile products are manufactured using a high-grade polyester yarn with special high tenacity and low creep properties knitted into a stable network. StrataTex HSR comes in two series, i.e Uniaxial Series and Biaxial Series. The range of this geotextiles successfully offers the mechanical stability to structures like earth walls or steep slopes, road, pavement or bridge constructions in short-term and long-term applications.

**Product appearance**



## Material properties

Product	Tensile Strength (kN/m)		Nominal strain at initial strength MD (%)
	Machine Direction (MD)	Cross Machine Direction (CMD)	
HSR 100/50	100	50	10
HSR 150/50	150	50	10
HSR 200/50	200	50	10
HSR 300/50	300	50	10
HSR 400/50	400	50	10
HSR 600/50	600	50	10
HSR 800/50	800	50	10
HSR 1000/100	1000	50	10
HSR 1200/100	1200	100	10
HSR 1400/100	1400	100	10
HSR 1800/100	1800	100	10

Notes: Material properties presented in the Table must be read in conjunction with the corresponding Technical Data sheets.

## Packaging

The manufacturer shall identify each roll of the 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 Cirtex submission dated 25 September 2023 and additional information provided on 28 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 StrataTex HSR 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. Additionally, StrataTex HSR is currently approved for use as a basal reinforcement with silty sand as a backfill material. This is purely based on the limited test data provided; however it can also be used for other backfill materials if default sliding/pullout parameters are used.

### **Type of acceptance**

Approved for specific use: Basal reinforcement

~~Approved for provisional use~~

~~Unapproved / Rejected~~

### **Product details supplied with the manufacturer / supplier's submission:**

Refer to appended StrataTex HSR geotextiles technical datasheet.

### **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 **9 January 2027** unless revoked and replaces any previous acceptance. The current ISO9001:2015 certification expires on **29 July 2025** for the Strata Geosystems India Pvt. Ltd manufacturing plant. This acceptance expires for the respective plants 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 Lead Advisor Structures  
Transport Services  
Waka Kotahi NZ Transport Agency**