BUILDING TRUST

PRODUCT DATA SHEET

PAREX® Railfast Concrete Summer

R4 Classification, Deep Section, Rapid Settting, Low Dust, Flowable Repair Concrete

PRODUCT DESCRIPTION

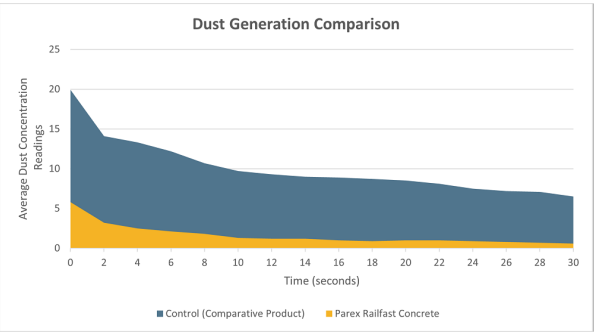
One-component, cementitious, rapid setting, deep section, volumetrically stable, low dust, flowable repair concrete specifically designed for the rail industry where a rapid return to service is critical. Also available in Winter grade, for a range of temperature applications.

USES

- High early strength grade (HES) track concreting.
- Construction of rail sleeper support pads.
- High strength support sections for steel and concrete superstructures.
- Concrete support of pit blocks.
- Reinstatement of deteriorated pavement areas.
- Constructing new pavement areas.
- Structural support requirements.
- Other concreting works requiring rapid return to service (e.g. roads and runways).

CHARACTERISTICS / ADVANTAGES

- Low dust (>70% reduction compared with equivalent conventional products).



- Available in 25kg bags and user friendly 20kg bags.
- Flowable concrete ensuring ease of use.
- Rapid setting, allowing a fast return to service.
- Chloride 'free' (<0.01%), so can be safely placed in contact with steel.
- High early strength gain.
- 20 to 650mm application thickness.
- No special curing required.
- Reaction to fire EuroClass A1 (non-combustible).
- Contains recycled products for improved sustainability.

APPROVALS / STANDARDS

Tested in accordance with the appropriate parts of the following standards: EN 12390, EN 12190, EN 13412, EN 1015 and EN 1542. Complies with the Classification R4 according to EN 1504-3 and is a structural repair CC mortar (based on hydraulic cement).

PRODUCT INFORMATION

Chemical Base	Cement, selected fillers and aggregates, special additives.
Packaging	20kg and 25kg bags
Shelf Life	6 months

Storage Conditions	Store properly in dry conditions in undamaged and unopened original sealed packaging.	
Appearance / Colour	Grey powder	
Maximum Grain Size	6.0 mm	
Density	~2300 kg/m³* * Hardened density	(EN 12390-7)
Soluble Chloride Ion Content	<0.01%	(EN 1015-17)

TECHNICAL INFORMATION

Compressive Strength	1 Hour	~20 N/mm²*	(EN 12390-3)
	2 Hours	~24 N/mm²	
	24 Hours	~40 N/mm²	
	7 Days	~50 N/mm²	
	28 Days	~65 N/mm²	
	* When cured in polystyrene moulds. All tests completed in a controlled laboratory environment at 20°C.		
	35 Days*	>85 N/mm²	(EN 12190)
	* Cured underwater for 28 days and then conditioned in air for a further 7 days, both at 20°C.		
Modulus of Elasticity in Compression	>35 GPa at 28 days		(EN 13412)
Tensile adhesion strength	≥2.0 N/mm²		(EN 1542)
Reaction to Fire	EuroClass A1		

APPLICATION INFORMATION

Mixing Ratio	1.8 litres of water for 20kg of powder. 2.25 litres of water for 25kg of powder.
Yield	20kg of powder yields ~9.5 litres of finished product. 25kg of powder yields ~12 litres of finished product.
Layer Thickness	20 mm minimum / 650 mm maximum
Product Temperature	+15°C minimum / +35°C maximum
Ambient Air Temperature	+15°C minimum / +35°C maximum
Substrate Temperature	+15°C minimum / +35°C maximum
Pot Life	~13 minutes from the start of mixing* * In controlled laboratory conditions where powder, water and ambient temperatures are 20°C. Warmer temperatures will accelerate product; colder temperatures will retard product.
Initial set time	~15 minutes* * In controlled laboratory conditions where powder, water and ambient temperatures are 20°C. Warmer temperatures will accelerate product; colder temperatures will retard product.
Final set time	~18 minutes* * In controlled laboratory conditions where powder, water and ambient temperatures are 20°C. Warmer temperatures will accelerate product; colder temperatures will retard product.
Application Time	The product should be placed within 10 minutes when fully mixed. Note: Warmer temperatures will accelerate product; colder temperatures will retard product.

VALUE BASE

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

LIMITATIONS

- Application temperature range +15°C to +35°C. At lower temperatures, the Winter version should be used instead.
- Do not apply to substrates that are likely to be affected by freeze-thaw action.
- Substrate must be clean, sound and free of loose material.
- Active cracks must be made passive / static prior to application.
- Do not part mix - only use full units.

ECOLOGY, HEALTH AND SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY / PRE-TREATMENT

All excavation work and installation of shuttering must be completed prior to start of mixing. All formwork should be of adequate strength, treated with release agent and sealed to prevent leakage. Sealing can be achieved by using Sikaflex®-11 FC Purform sealant beneath or around formwork and between joints. Ensure formwork includes outlets for extraction of the pre-soaking water.
Break out defective concrete to an appropriate profile. Surfaces must be sound, clean, free from ice, oils, grease, standing water and any loose or friable particles and any other surface contaminants. The concrete substrates should be pre-soaked with clean water continuously to ensure a saturated surface dry (SSD) substrate is achieved throughout the operation. Immediately before pouring the grout, remove all excess or standing water from within any formwork, cavities or pockets. A matt damp condition is ideal.

MIXING

Mixing should be undertaken using a pre-calibrated water measure and a purpose designed, handheld paddle mixer such as Refina, a pan type mixer such as CreteAngle or Rojo, or a tipping type mixer such as a Portamix Mega Hippo. Mix PAREX® Railfast Concrete Summer in close proximity to the point of application. Measure the appropriate amount of clean potable water and add into the a clean mixing vessel. PAREX® Railfast Concrete Summer should be added slowly whilst continuously mixing. Mix thoroughly for at least 90 seconds to produce a pourable, self-compacting concrete. Once setting of the concrete has commenced, re-tampering or further mixing should not be attempted.

APPLICATION

Mixed PAREX® Railfast Concrete Summer should be placed onto the dampened prepared surface as soon as mixing is complete. Once placed, fully compact the concrete to obtain maximum strength development. The bed thickness applied in a single application should be between 20mm and 650mm.

CURING TREATMENT

No special curing is required at temperatures between +15°C and +35°C.

CLEANING OF TOOLS

Clean all tools and application equipment with water immediately after use. Hardened / cured material can only be mechanically removed.

LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields.

LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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