BUILDING TRUST

PRODUCT DATA SHEET

Sikadur®-12 Pronto

2-part acrylic, multi-purpose, fast strength gain repair mortar and grout

PRODUCT DESCRIPTION

Sikadur®-12 Pronto is a 2-part acrylic, multi-purpose, fast strength gain, hand applied or flowable repair mortar and grout. For repairing and grouting all types of concrete elements paricularly at low temperatures. It has good mechanical strengths and good resistance to abrasion, impact and chemicals. Layer thickness as a flowable repair and grout: 5–30 mm. Layer thickness as a hand applied repair mortar (with sand addition): 20–100 mm. Application temperature: -10 °C to +30 °C.

USES

Sikadur®-12 Pronto may only be used by experienced professionals.

Concrete Repairs:
- Roadways
- Runways
- Car park decks
- Industrial floors
- Stairs
- Precast concrete units
- Void, cavity and pore hole filling

Grouting:
- Bridge bearings
- Foundations
- Anchors
- Bolts

CHARACTERISTICS / ADVANTAGES

- Fast curing.
- Can be applied at low temperatures.
- Easy mixing.
- Good workability.
- High mechanical strengths.
- Good abrasion and impact resistance.
- Good chemical resistance.
- Application onto concrete, cementitious, stone and steel substrates.
- Versatile product - sand addition allows use as a repair mortar.

APPROVALS / STANDARDS

- CE Marking and Declaration of Performance to EN 1504-6 - Anchoring of reinforcing steel bar.
- CE Marking and Declaration of Performance to EN 13813 - Resin screed material for internal use in buildings.

PRODUCT INFORMATION

Chemical Base	Reactive acrylic resins	
Packaging	Part A	2,75 kg containers
	Part B	22,25 kg bags
	Part A+B	25,00 kg ready to mix units
	Refer to current price list for packaging variations.	

Shelf Life	12 months from date of production
Storage Conditions	The product must be stored in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +5 °C and +30 °C. Always refer to packaging.

Density (DIN EN ISO 2811-1)

Part A	~0,94 kg/l
Part B	~1,38 kg/l
Part A+B mixed	~2,10 kg/l

Values at +23 °C

TECHNICAL INFORMATION

Effective Bearing Area — > 90 % (ASTM C1339)

Compressive Strength (EN 191-1)

Curing time	Curing temperature		
	-10 °C	+5 °C	+20 °C
3 hours	~55 N/mm²	~65 N/mm²	~67 N/mm²
24 hours	—	~71 N/mm²	~73 N/mm²
10 days	—	~75 N/mm²	~78 N/mm²

Modulus of Elasticity in Compression — ~12 000 N/mm² (EN-13412)

Flexural Strength (EN 191-1)

Curing time	Curing temperature		
	–10 °C	+5 °C	+20 °C
3 hours	~13 N/mm²	~14 N/mm²	~16 N/mm²
24 hours	—	~16 N/mm²	~18 N/mm²
10 days	—	~17 N/mm²	~19 N/mm²

Tensile adhesion strength — > 1.5 N/mm² (failure in concrete) (ISO 4624)

Creep (ASTM C1181)

0,12 % at 4,14 N/mm² (600 psi) / 31 500 N (+23 °C)
0,11 % at 2,76 N/mm² (400 psi) / 21 000 N (+23 °C)

Shrinkage — -0,069 % (EN 12617-4)

Coefficient of Thermal Expansion (EN 1770)

1,8 × 10^{-5} 1/K (Temp. range -30 °C to 0 °C)
2,2 × 10^{-5} 1/K (Temp. range 0 °C to +30 °C)
1,0 × 10^{-5} 1/K (Temp. range +30 °C to +60 °C)

Service Temperature — -40 °C min. / +40° C max.

Thermal Compatibility — No delamination / pass (ASTM C884)

Chemical Resistance — Resistant to many chemicals. Contact Sika Technical Services for additional information.

SYSTEM INFORMATION

System Structure

Flowable repair mortar (5–30 mm per layer)

Primer*	Sikafloor®-10 Pronto N lightly broadcast with quartz sand 0,4–0,7 mm
Mortar	Sikadur®-12 Pronto

Hand applied repair mortar (20–100 mm per layer)

Primer	Sikafloor®-10 Pronto N lightly broadcast with quartz sand 0,4–0,7 mm
Mortar	Sikadur®-12 Pronto + kiln-dried quartz sand 2–7 mm

Grout (5–30 mm layer)

Primer*	Sikafloor®-10 Pronto N lightly broadcast with quartz sand 0,4–0,7 mm
Grout	Sikadur®-12 Pronto

*Optional, recommended for thin layer applications of Sikadur®-12 Pronto. For horizontal floor repairs, for slip resistant surface broadcast with quartz sand 0,4–0,7 mm.

APPLICATION INFORMATION

Mixing Ratio

Part A : Part B = 1 : 8 (by weight)
The mixing ratio can be varied, depending on the required consistency.
Limitations: Part A : Part B = 1 : 7 to 1 : 11 (by weight).
At a mixing ratio of 1 : 7, Sikadur®-12 Pronto can be used as a flowable mortar or grout.
Sikadur®-12 Pronto can be filled with quartz sand. Maximum 1 part quartz sand per 2 parts of Sikadur®-12 Pronto (by weight).

Consumption

Layer	Product	Consumption
Primer	Sikafloor®-10 Pronto N	~0,30–0,40 kg/m²
Broadcast	Quartz sand 0,4–0,7 mm	~0,50–0,80 kg/m²
Flowable repair mortar or grout (5–30 mm)	Sikadur®-12 Pronto	~2,1 kg/m²/mm
Hand applied repair mortar (20–100 mm)	2 pbw Sikadur®-12 Pronto + max. 1 pbw quartz sand mix*	~2,1 kg/m²/mm
Broadcast (if required)	Quartz sand 0,4–0,7 mm	~0,5–0,8 kg/m²

* quartz sand mix:
1 pbw quartz sand 2–3 mm
1 pbw quartz sand 3–5 mm
5 pbw quartz sand 5–7 mm
pbw = parts by weight

Layer Thickness

Flowable repair mortar	5–30 mm
Hand applied repair mortar	20–100 mm (with sand addition)
Grout	5–30 mm

Additional layer thicknesses can be a applied in successive layers once each layer has cooled and hardened sufficiently. Where possible, the surface of the freshly applied intermediate layers should be scratched to form a key for subsequent layers.

Peak Exotherm

~66 °C (at +23 °C) (ASTM D 2471)

Flowability

~400 mm (23 °C after 15 min) Flow channel	(EN 13395-2)
~235 mm (23 °C after 15 min) Slump test	(EN 13395-1)

Ambient Air Temperature

–10 °C min. / +30 °C max.

Relative Air Humidity

80 % maximum

Dew Point

Beware of condensation.
The substrate and uncured applied floor material must be at least +3 °C above dew point to reduce the risk of condensation or blooming on the surface of the applied product. Low temperatures and high humidity conditions increase the probability of blooming.

Substrate Temperature

–10 °C min. / +30 °C max.

Substrate Moisture Content

≤4 % parts by weight
Test method: Sika®-Tramex meter, CM-measurement or Oven-dry-method. No rising moisture according to ASTM (Polyethylene-sheet).

Pot Life

Temperature	Pot Life
-10 °C	60 minutes
+5 °C	30 minutes
+10 °C	20 minutes
+20 °C	10 minutes

Pot-life begins when all parts have been mixed. It is shorter at high temperatures and longer at low temperatures. The greater the quantity mixed, the shorter the pot-life. To obtain longer workability at high temperatures, the mixed adhesive may be divided into smaller quantities. Another method is to chill parts A+B before mixing (although not below +5 °C).

Curing Time

Temperature	Light Traffic	Full Cure
-10 °C	~180 minutes	~12 hours
+5 °C	~90 minutes	~8 hours
+10 °C	~60 minutes	~6 hours
+20 °C	~30 minutes	~3 hours

Waiting Time / Overcoating

Before applying Sikadur®-12 Pronto on Sikafloor®-10 Pronto N allow:

Substrate temperature	Time minimum	Time maximum
-10 °C	55 minutes	*
+5 °C	90 minutes	*
+10 °C	75 minutes	*
+20 °C	60 minutes	*

Before applying Sikadur®-12 Pronto on Sikadur®-12 Pronto allow:

Substrate temperature	Time minimum	Time maximum
-10 °C	120 minutes	*
+5 °C	60 minutes	*
+10 °C	40 minutes	*
+20 °C	20 minutes	*

*No time limit Sikadur®-12 Pronto can be applied onto Sikafloor®-10 Pronto N or Sikadur®-12 Pronto after thorough cleaning.
Times are approximate and will be affected by the changing ambient conditions particularly temperature and relative humidity.

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.

FURTHER DOCUMENTS

- Method Statement: Sikadur®-12 Pronto Ref.: 850 42 05.

LIMITATIONS

- Do not apply Sikadur®-12 Pronto on substrates with rising moisture.
- After application Sikadur®-12 Pronto must be protected from damp, condensation and water for at least 1 hour.
- Use spark proof mixing equipment for internal applications.
- Always ensure good ventilation when using Sikadur®-12 Pronto in a confined space.
- In order to ensure optimum curing during internal applications the air must be exchanged at least seven times per hour. During application and curing use a forced fresh air supply / exhausting of fumes with appropriate equipment (explosion proof).
- Preliminary trials must be carried out for mortar mixes to assess suitable sand granulometry, workability, etc.
- The incorrect assessment and treatment of cracks may lead to a reduced service life and reflective cracking.
- Polymeric mortars will adhere to formwork, any formwork used must be generously coated with a suitable release agent.
- When considering using Sikadur®-12 Pronto for anchoring applications: Sikadur® resins are formulated to have low creep under permanent loading. However, due to the creep behaviour of all polymer materials under load, the long term structural design load must account for creep. Generally the long term structural design load must be lower than 20–25% of the failure load. A structural engineer must be consulted for design calculations.
- When using multiple units during application, do not

mix the following unit until the previous one has been used in order to avoid a reduction in workability and handling time.
- Do not add solvents. Solvents will prevent proper curing and change the mechanical properties.
- Do not feather edge repairs.

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

EQUIPMENT

Substrate preparation
- Mechanical or very high pressure water-blasting.

Steel reinforcement
- Abrasive blast cleaning techniques or high pressure water-blasting.

Mixing
- Small quantities - low speed (300–400 rpm) electric hand-held paddle mixer with a suitable mixing container.
- Large quantities or machine application - suitable forced action mixer.

Application
- Hand applied – plasterers hawk, trowel.
- Flowable applied - pouring container.
- Grout - pouring container.

Finishing
- Trowel (PVC or wooden).
- Steel float.

SUBSTRATE QUALITY

Concrete
Concrete and mortar must be at least 3–6 weeks old. Substrate surfaces must be sound, clean, dry, free from standing water, ice, dirt, oil, grease, coatings, laitance, efflorescence, old surface treatments, all loose particles and any other surface contaminants that could affect adhesion.

Steel reinforcement
Surfaces must be clean, dry, free from oil, grease, coatings, rust, scale, all loose particles and any other surface contaminants that could affect adhesion.

Wood
Substrate surfaces must be sound, clean, dry and free from dirt, oil, grease, coatings, all loose particles and any other surface contaminants that could affect adhesion.

SUBSTRATE PREPARATION

Concrete
Delaminated, weak, damaged and deteriorated substrates, and where necessary sound substrate, must be removed by suitable preparation equipment. Ensure sufficient concrete is removed from around corroded reinforcement to allow cleaning, corrosion protection coating (where required) and compaction of the repair material.
Repair surface areas must be prepared to provide simple square or rectangular layouts to avoid shrinkage stress concentrations and cracking while the repair material cures. This can also avoid structural stress concentrations from thermal movement and loading during the service life.
All dust, loose and friable material must be completely removed from all surfaces before application of the product, preferably by brush and / or vacuum.

Steel reinforcement
Surfaces must be prepared using suitable preparation equipment to Sa 2 (ISO 8501-1) or bright metal.

Shutter formwork for flowable repair and grout
Where formwork is to be used, all formwork must be of adequate strength, treated with release agent and sealed to prevent leakage.
For grout application, a header box or hopper must be constructed on one side of the formwork so that a grout head of 150–200 mm can be maintained during the grouting operation.

All substrates
All dust and loose material must be completely removed from all substrate surfaces before application of the product by vacuum / dust removal equipment.

MIXING

Mixing manually
Pour required quantity of Part A into the plastic bag containing Part B. Tie up the plastic bag and mix by shaking thoroughly by hand. To pour out the mixed material, simply cut off a tip of the plastic bag.

Mixing using a container
Pour the required quantity of Part A into suitable mixing container. Slowly add Part B powder whilst constantly mixing. Overmixing must be avoided to minimise air entrapment. By adding the powder component (and quartz sand if required) gradually, the required consistency can be obtained.
Mix only the quantity which can be used within its pot-life.

APPLICATION METHOD / TOOLS

Reference must be made to further documentation where applicable, such as relevant method statement, application manual and installation or working instructions.
Prior to application, confirm substrate moisture content, relative air humidity, dew point, substrate and air temperatures.

Reinforcement or steel corrosion protection coating
Where a reinforcement coating is required, apply to the whole exposed circumference SikaTop® Armatec®-110 EpoCem® (refer to individual Product Data Sheet).

Priming
Onto the prepared surface, apply the mixed Sikafloor®-10 Pronto N primer by brush or roller. Ensure a continuous, pore-free coat covers the substrate.

Flowable repair mortar
Immediately after mixing, pour the mixed flowable repair mortar into the formwork or repair area ensuring

a continuous flow.

Hand applied repair mortar

Immediately after mixing, the repair mortar must be applied onto the primer coat between the minimum and maximum layer thicknesses without the formation of voids.

Flowable repair mortar and grout

Immediately after mixing, pour the mixed grout into the header box or hopper ensuring continuous grout flow during the complete grouting operation to avoid trapping air.

Finishing

Finishing must be carried out to the required surface texture using suitable finishing tools.

If a textured surface finish is required, the freshly trowelled mortar may be lightly broadcast with quartz sand.

Unfilled Sikadur®-12 Pronto must be applied by trowel in a finishing layer of 10 mm thickness if a dense, smooth surface is required.

CLEANING OF TOOLS

Clean all tools and application equipment with Sika® Thinner C immediately after use. Hardened 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.

SIKA LIMITED
Watchmead
Welwyn Garden City
Hertfordshire, AL7 1BQ
Tel: 01707 394444
Web: www.sika.co.uk
Twitter: @SikaLimited