

Product Description

PlastiRoute® RP is a paste-like, solvent-free road marking cold plastic which cures by addition of peroxide initiator. It is recommended as permanent marking for very high trafficked roads on asphalt as well as on concrete via primer. **PlastiRoute® RP** achieves good adhesion to the ground due to its good flow-ability. It is suitable for processing with screed-box, extrusion application as well as regular or stochastic agglomerate techniques (like rotating bar with pins). The 2 mm quartz-particles inside of **PlastiRoute® RP (Rough Plastic)** ensure that hand-application via trowel is easy, fast and always yields 2 mm film thickness'.

For Pneumatic spray Application technique we also provide **PlastiRoute® RP-3C** with 1,5 mm quartz-particles inside. They showed a better flowability in the pipes.

By using our verified fine or coarse drop on beads and/or agglomerate techniques, **PlastiRoute® RP** will yield Type I or Type II markings, as accredited by several certificates, see *Accreditations*. Due to its coarse texture even Type I beads are usually sufficient to achieve Type II properties.

PlastiRoute® RP is offered in almost any colour tone, see *colour*. Additionally it is offered in special qualities for very hot as well as very cold application temperatures with lower, respectively higher reactivity; see *Surface Temperature (Summer → standard → Winter)*.

Primarily requested qualities are:

PlastiRoute® RP-3C White (typically for full lines)

PlastiRoute® RP-3C 3020 Traffic Red (typically for cycle paths)

Application

Application Equipment

All common application equipments for paste-like cold-plastic-material are supported. E.g.: hand or machine application via screed-box, extruding, agglomerates: rotating bar with pins or dot-shooting as well as application via trowel. Or a modified pneumatic spray machine.

Viscosity / Liquefier

PlastiRoute® RP is ready for processing when delivered. Only for special setups, reactive liquefier may be needed to optimize flow-ability. For this purpose, only use our acrylate-based thinner which will constitute a beneficial part of the final cold plastic when cured:

PlastiRoute® Reactive Liquefier

Surface Preparation

Before applying, the surface should be dry, clean and free of dust, salt and grease or oil. The surface must be adhesive; old coatings must be checked.

Bitumen

Depending on the amount of flux oils contained in new bituminous surfaces, these may need to be weathered up to 8 weeks before final application. Especially on hot days sweating of flux oils from fresh bitumen occurs often. If cold plastic material is applied too early on fresh asphalts the cured marking can be peeled off. In case of doubt we recommend applying a test stripe and try to peel it off after curing (30 min). If peeling off is possible then, hot ambient temperatures should be avoided and or the road surface needs additional time to be weathered. The use of **PlastiRoute® THAN Primer** (≈ 0.2 kg / m²) is recommended for heavily weathered or bitumen-poor asphalt pavements.

Concrete

New concrete surfaces are typically treated with waxes or curing-retarding-agents which are sprayed on top of the surface. These surface treatments prevent adherence of any coating and have to be removed first! Removal can be done via mechanic grinding or high pressure water blasting (> 1000 bar). Then Concrete surfaces (freshly grinded or old) have to be prepared with

PlastiRoute® THAN Primer (consumption ≈ 0.2 kg/m²)

Polished Surfaces

Highly polished concrete, smooth epoxy or polyurethane treated surfaces, granite, enameled tiles and alike may reduce adhesion. We recommend a test marking and try to peel this off after curing (30 min).

Application

Film Thickness – Flat Line 1.5 – 5 mm

Initiator / Mixing Ratio Following peroxide ratios are calculated for the combined mass of component A and B:
 Liquid peroxide (40 wt.-%) 1.2 – 1.8% wt
 Powder peroxide (50 wt.-%) 1.0 – 1.5% wt
 Powder peroxide (34 wt.-%) 1.5 – 2.0% wt

Pot-Life: ColdPlastic-3C 3.0 parts peroxide + 47 parts cold plastic-3CA Component A → **initiated** Component A
 → Pot-life at room temperature ≈ 48 h – higher temperature reduces pot-life.

 50 parts initiated Component A + 50 parts Component B
 → Pot-life at 22 °C ≈ 8 minutes – higher temperature reduces pot-life.

Application Process The material must be stirred until homogeneous. **RP** is mixed directly with peroxide initiator. As soon as peroxide initiator is added, the curing process starts immediately– higher temperature reduces the pot-life. Whenever the application is stopped, the equipment has to be cleaned from the reactive cold plastic mixture immediately.

Drop On Beads Drop on beads need to be added immediately after applying **PlastiRoute® RP** onto the road. Due to its paste-like consistency especially small beads are a good choice for easy embedding. Please make sure that the beads are embedded into the cold plastic mass to about 50 %, to maximize retro reflection as well as bead-adhesion. A decisive factor for bead adhesion is the proper bead coating. Therefore, only for our own beads we can give a guaranty for a good bead-adhesion.

Consumption All Qualities, all *Colours*
 2 mm film-thickness = 2 l/m² ≈ 3.84 kg/m²

 Depending on *Colour*, deviations from these averages occur in the order of up to 5%, see MSDS for exact density to calculate exact consumptions.

Pass-Over-Time Independent of film thickness or *Colour*. ≈ 20 min at 22°C.

Cleaning Of Equipment Use **PlastiRoute® Cleaner**

Application – General Without the consent of the manufacturer the product may not be used for any other than the intended purpose.

Technical characteristics

| | |
|-------------------------------|---|
| <i>Binding Agent</i> | Pure acrylic polymer, dissolved in pure acrylic monomers |
| <i>Dry Residue</i> | <i>All Qualities / All Colours</i> ≥ 99 % |
| <i>Skid Resistance</i> | <p>If drop on beads are used on top of PlastiRoute® RP, friction mainly is determined by this top layer. GEVEKO offers drop-on beads with and without friction aggregates inside; please ask us for suitable mixtures.</p> <p>If no drop on material is used, friction of the marking is determined by application method, road surface-texture, wear and primarily the marking material itself. PlastiRoute® RP - products are developed for road-marking applications with increased grip for traffic security. They incorporate quartz particles of more than 50 % weight and particle-sizes up to 1.8 mm leading to high skid resistance. However friction of non smooth surfaces is not measured adequately using the established SRT pendulum – in general: the bigger the particles/texture the lower the measured SRT. (This is why friction of agglomerates cannot be measured with an SRT-pendulum). In spite of this fact PlastiRoute® RP -products achieve 60 SRT minimum.</p> |
| <i>Colour</i> | <p>PlastiRoute® RP material is available in many colours, e.g.:</p> <p>PlastiRoute® RP White PlastiRoute® RP 1023 Traffic Yellow PlastiRoute® RP 3020 Traffic Red PlastiRoute® RP 5017 Traffic Blue PlastiRoute® RP 6024 Traffic Green PlastiRoute® RP 7042 Traffic Grey A PlastiRoute® RP 9017 Traffic Black</p> |
| <i>Density</i> | <p>≈ 1.80 - 1,95 kg/l</p> <p>Depending on <i>Colour</i>, deviations from the average of 1.85 kg/l occur in the order of up to 5%, see MSDS or price list for exact density.</p> |
| <i>Viscosity</i> | <p>RP - 3C B 80 – 100 dpas RP - 3C A 100-130 dpas</p> |
| <i>Additional information</i> | <p>Free from toxic heavy metals or their compositions. Free from aromatic hydrocarbons. Additional information regarding current legal regulations and information regarding workers health and safety are listed in the Material Safety Data Sheet. Also instructions about transport, handling and storage, disposal and advices regarding first aid, toxicology and ecology are given. The Material Safety Data Sheet has to be read and understood before commencing work.</p> <p>The material may not be used for any purpose other than the intended purpose without the consent of the manufacturer. Please contact GEVEKO Müllheim for applying on special surfaces or for custom application techniques (contact-address on last page).</p> |

Storage

12 months unbroken, under proper storage conditions:

Store in tightly closed original containers in a dry, well-ventilated room at temperatures between +5 °C and +30 °C, not directly on the floor and not in the vicinity of heating radiators.

Please note that the material can show a tendency towards sedimentation during transport and storage. After having been stirred-up homogeneously, the material will be ready for use again.

Packaging

Metal bucket with 16, 28, 38.8 kg; drum with 210l; steel container with 1000 kg, 1.350 kg net wt.

Accreditations

| Germany BAST-Certificate | System | | Traffic Properties According to EN 1436 | | | | | |
|-----------------------------|------------------|------|---|-------|-----|-------|------|-----|
| | Description | Type | P | SRT | RL | RLwet | Qd/B | T |
| 2002 1DK 06.08 | Agglo | II | P 7 | > S 1 | R 4 | RW 4 | Q 5 | T 3 |
| 2002 1DK 06.15 | Full Line 2.5 mm | II | P 7 | S 1 | R 3 | RW 3 | Q 5 | T 3 |
| 2004 1DK 06.10 | Agglo on Primer | II | P 7 | > S 2 | R 4 | RW 4 | Q 5 | T 2 |

Application examples: Upper right: **PlastiRoute® RP-3C 3020 Traffic Red** – Cycle path made by typical application with trowel; Lower left: Cycle path made by special pneumatic spray application with 3 Component **PlastiRoute® RP-3C 3020 Traffic Red**



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