

High Friction & Coloured Surfacing

HITEX International Group
Road Surface Innovation

LOW ENERGY INSTALLATION

BBA APPROVAL INSPECTION TESTING CERTIFICATION
CERTIFICATE 16/H256

# PumaGrip Type 1

## PU modified MMA Cold Applied Surface Treatment
## Thermosetting High Friction Surfacing

Type 1 high friction surfacing is proven to reduce accidents and save lives by reducing braking distance and improving vehicle control. The system dramatically improves skid resistance in both dry and wet conditions.

Product specification and technical data

ROAD SAFETY MARKINGS ASSOCIATION · ROAD SAFETY SURFACING ASSOCIATION · RSTA · BS EN 1871 KM 93503 · bsi. ISO 9001 Quality Management · bsi. ISO 14001 Environmental Management

# Puma**Grip** Type 1

BBA/HAPAS approved PumaGrip Type 1 comprises a two-component, polyurethane modified MMA binder and 100% road grade calcined bauxite.

Type 1 high friction or anti-skid surfacing is one of the most effective road safety surfacing measures used to reduce accidents and save lives. Over the past five decades, there has been significant reported declines in skid-related cases following the installation of the system, saving countless lives.

## Why PumaGrip Type 1?

- Suitable for old and brand new asphaltic surfaces
- Can be used on concrete surfaces when used with approved primer
- Non-toxic binder system
- Catalyst controlled, rapid curing of typically 30 – 60 minutes
- Tough and durable with a long service life
- Fast installation- can be laid directly onto suitable existing surface

## Typical uses

PumaGrip Type 1 is suitable for all roads where the highest levels of skid resistance are required. PumaGrip Type 1 is used to improve safety in such locations as:

- Highly trafficked, high stress areas
- Sharp bends, junctions and motorway slip roads
- Roundabout and pedestrian crossing approaches
- Accident black spots

## Compliances/Approvals

PumaGrip Type 1 has full BBA/HAPAS certification approval, and must only be installed by approved operatives. The management system of Hitex Traffic Safety has been assessed and registered as meeting the requirements of BS EN ISO 9001 and BS EN ISO 14001.

## Colour

The natural colour of the calcined bauxite aggregate dictates the overall colour of the finished surface. PumaGrip Type 1 is available in natural buff or dark (grey). PumaGrip binder is an off-white / light buff colour.

## Application method

PumaGrip is hand applied. Please refer to the relevant Installation Method Statement for full instructions on the application process.

## Technical data

Table 1 Physical properties

| | |
|---|---|
| **Typical coverage rate per m²** | 3kg |
| **Pot life @ 20 °C*** | 15 – 20 mins |
| **Curing time @ 20 °C*** | 30 – 60 mins |
| **Road surface temperature range** | 0 – 40°C |
| **Density** | 1.6 ± 0.05 g/cm$^3$ |

* Dependant on ambient temperature and catalyst dosage

Table 2 Aggregate

Hitex PumaGrip Type 1 Buff/Dark uses 100% calcined bauxite aggregate. The BBA/HAPAS certificate is based on use of a graded nominal 1-3mm calcined bauxite aggregate. Any deviation from this will compromise performance and will invalidate the Type 1 certification.

| **Aggregate** | **Requirement** |
|---|---|
| **Polished Stone Value** (PSV) | 70 |
| **Aggregate Abrasion Value** (AAV) | max. 4 |
| **Gradation passing 3.35mm** | min. 95% |
| **Gradation passing 1.18mm** | min. 5% |

Table 3 Material performance

The properties of the installed product are designed to conform to the requirements below.

| **Parameter** | **Typical value** | **BBA/HAPAS Type 1 Specification** |
|---|---|---|
| **Skid Resistance Value** (SRV) | 75 + | ≥ 65 |
| **Initial texture depth** | 2.0 mm | ≥ 1.4 mm |
| **Tensile adhesion @ 20°C** | 1.8 N/mm$^2$ | ≥ 0.5 N/mm$^2$ |

Table 4 Spread rates

| | |
|---|---|
| **Aggregate** | Approximately 8 - 10 kg/ m2 using a 1-3mm stone |
| **PumaGrip filled binder** | 2.3 - 2.8 kg/m2 on typical substrates, more on rough or open textures |

## Packaging and storage

PumaGrip binder component is supplied in pre-weighed 20kg pails. The catalyst (hardener) is supplied separately. Dosage of the catalyst varies according to material temperature – see the relevant Installation Method Statement for details. Calcined bauxite aggregate is supplied in 25kg or 1250kg sacks.

It is recommended that PumaGrip Type 1 product should be kept totally dry and stored away from direct sunlight and areas of potential contamination. The binder component must be stored away from any catalyst. Stable for at least 12 months when stored in a cool, dry place. Long periods of over-heating (e.g. external storage in summer) may lead to gelling of the material.

## Health & safety

For further information consult the relevant Product Safety Data Sheets (SDS).

## Disclaimer

The information contained herein is accurate to the best of our knowledge and belief as at the date issued. The information and recommendations are offered for the user's consideration and examination for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product. It is the user's responsibility to satisfy itself as to the suitability of such information for its particular use and to carry out their own COSHH assessment.

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