MasterJoint® PR 811

Two Component Polyurea Hybrid, Pigmented, Elastic, Highly Reactive, Spray Applied (Machine Application) Waterproofing Membrane with Short Curing Time

Material Description

MasterJoint® PR 811 is a two component polyurea hybrid waterproofing membrane. It is high reactive and needs to be applied by special, two component spray equipment (Mixing ratio 100 : 100 by volume).

Areas of Application

MasterJoint® PR 811 is used in a wide range of water-proofing applications such as car park decks, podium decks, cut and cover tunnelling and basement waterproof- ing. It is also used in some secondary containment appli- cations.
Using the appropriate primer, **MasterJoint® PR 811** can be applied to most substrates including concrete, steel, bitumen cement screed, glass reinforced polyester, timber etc.

- Roofs, terraces and terrace gardens
- Aircraft hangars
- Tunnels
- Collecting tanks
- Underground water tanks
- Insulation and coating of car park decks

Technical Properties	
Structure of the Material **MasterJoint® PR 811** Part A **MasterJoint® PR 811** Part B	 Polyurea Hybrid Resin Polyurea Hybrid Hardener
Color	Grey and White
Mixing Ratio	100/106 (weight)
Processing Pressure Part A Part B	 130 – 180 bar 130 – 180 bar
Density: Part A Part B	 ~1,05 g/cm^2 ~1,09 g/cm^2
Viscosity: Part A Part B	 ~1650 mPas ~1900 m Pas
Shore A hardness (28 days)	88
Tensile Strength (DIN 53504)	16 N/mm^2
Tear Strength (DIN 53515)	34 N/mm^2
Breaking Elongation	485%
Gel Time (Hand Mixed)	10 - 15 seconds
Water Vapour Permeability (1,5 mm, 25 °C/75 % r.h.) (BS 3177)	19 g/(m^2.d)
Service Temperature	-40^{0}C + 120^{0}C (for shot terms +250^{0}C)
Static crack bridging ability (EN 1062-7)	A5 Class
Dynamic crack bridging ability (EN 1062-7)	B4.2 Class

Typical values are obtained from the test results in 23°C and 50% relative humidity conditions. High temperatures shorten the curing and working time, lower temperatures extends the durations.

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- Pools
- Channels
- Warehouses

Characteristics and Benefits

- Fast reacting
- High build capability
- Application to vertical surface without runs
- Easy application to complicated details
- Fast installation
- Monolithic – no laps, welds or seams
- Fully bonded
- High water vapour permeability – low risk of blistering
- Excellent mechanical properties
- Excellent crack bridging
- Resistant to puncture
- Resistant to standing water
- Thermoset–does not soften at elevated temperatures
- Remains elastic at low temperatures; Tg approx -45°C
- Solvent free

MasterJoint® PR 811 features high elasticity, excellent tensile strength and elongation and a good wear resistance. This highly reactive waterproofing membrane allows its installation on vertical surfaces without problem. More over this fast-curing membrane can be re-coated within a few hours.

Processing Method

(A) Preparation of Substrate

The preparation of the substrate and the use of the appropriate primer are of paramount importance. All surfaces to which **MasterJoint® PR 811** is applied should be sound, clean and dry and free from oil or grease, loose particles and any other substances which may impair adhesion. For substrate pre-treatment prior to the primer application see primer technical data sheet.

Concrete and Cementitious Screed

Concrete and other cementitious substrates must have a minimum pull off strength of 1.5 N/mm^2. Any laitance present on the surface must be removed mechanically. Shot blasting is the preferred method. Release oil and other contaminants which may impair adhesion must be removed prior to the application of the primer.

Asphalt (only indoor!)

The asphalt should be cleaned by high pressure water jetting. In mechanically stressed applications the load bearing capacity of the asphalt should be suitable for the intended use and should be shot blasted so that at least 60 % of the surface aggregate is exposed. Blisters should be warmed, re-dressed and a debond tape applied over.

Bituminous Sheeting

MasterJoint® PR 811 can be applied over bitumen based coatings if fire protection is not required. For more information, please consult **MBT Teknik Yapı Kimyasalları San. ve Tic. A.Ş.** for more information.

Iron/Steel

Should be sand blasted to an Sa 2 ½ finish prior to application of the primer.

Primer

Use the following guide to select the appropriate primer:

Substrate	Primer
Concrete/Cementitious Screed	MasterCoat® PRI 617 or MasterCoat® PRI 677 MasterJoint® PRI 625
MasterJoint® PR 800/811	MasterJoint® PRI 691

In some circumstances, other primers may be more appropriate. For further details, please consult your local sales office

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(B) Processing

MasterJoint® PR 811 can only be applied by means of a suitable two component spray machine. **MasterJoint® PR 811** system solutions and applications should always be carried out by qualified dealers certified by **MBT Teknik Yapı Kimyasalları San. ve Tic. A.Ş.** **MasterJoint® PR 811** should only be applied to properly prepared substrates. Surrounding areas should be protected from overspray by masking off with e.g. polyethylene sheet or paper. Care should be taken to prevent spray mist being carried by wind by erecting suitable barriers. **MasterJoint® PR 811** should be applied within the recommended temperature and relative humidity limits. The temperature of the substrate must be at least 3 K above the dew point during the application.

Re-coatings Intervals

Next layer	Hours min. Temperature (0C) 10 20 30	Hours max. Temperature (0C) 10 20 30
MasterJoint® PR 811	immediately	8* 4* 2*
MasterJoint® PRI 691	4 2 2	14 days**
Wear coat	4 3 2	36* 24* 16*
Top Coat	4 3 2	24* 16* 12*

** If the re-coating times are exceeded or if rain falls or dew forms on the **MasterJoint® PR 811** then allow to dry thoroughly and apply **MasterJoint® PRI 691** according to manufacturers instructions before proceeding.*
*** If the re-coating interval exceed 14 days, the **MasterJoint® PR 811** must be lightly abraded and the dust removed by vacuum cleaning and solvent wipe prior to the application of the **MasterJoint® PRI 691**.*

Top Coats

MasterJoint® PR 811 does not provide adequate resistance against the sun (UV) without a protective layer.
For this reason, one of the following UV-resistant topcoat products should be used, depending on the application purpose:

- Standard Applications: **MasterJoint® TC 269**, which has high UV resistance and protects the base layer.
- Surfaces Requiring Non-Slip Properties or Subjected to Heavy Load (Vehicle Traffic): **MasterJoint® TC 268** (Can be applied by roughening with dried silica sand.)

Please contact **MBT Teknik Yapı Kimyasalları San. ve Tic. A.Ş.** for correct material selection.

Consumption

Consumption of 2,0 - 2,5 kg/m^2 under normal conditions.
In some special cases the consumption can be up to 4,0 kg/m^2.

Point to Consider

- Do not apply in extremely hot, rainy or windy weather or if the ambient and surface temperature is not within the permissible temperature range.
- Working and reaction times of resin based systems are affected by ambient and ground temperature and relative humidity in the air. At low temperatures, the chemical reaction slows down, which prolongs the curing, coating time and working time. At the same time, consumption increases as viscosity increases. At high temperatures, the chemical reaction time accelerates and the times mentioned above are shortened accordingly. The ambient and substrate temperature must not fall below the minimum permissible temperature for the material to cure completely.
- **MasterJoint® PR 811** A and B components are ready-to-use products. Solvents etc. should not be added during application.
- For professional use
- Used packages should be stocked in such a way that reuse is prevented.

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Cleaning of Tools

Used tools and equipment must be cleaned carefully with an appropriate solvent. Once cured **MasterJoint® PR 811** can only be removed by mechanically.

Packaging

Part A: 210 kg barrels
Part B: 220 kg barrels

Shelf Life

12 months after the production date under appropriate storing conditions.Opened packages have to be stored by tightly sealing the bag/cover and must be used in one week.

Storage

Must be stored in unopened original packing, and in cool (15° – 25° C) and dry environment protected from freezing. In short-term storing, maximum 3 palettes can be stowed on top of each other and delivery has to be according to first in first out system. In long-term storing, the palettes must not be stowed on top of each other.

Health and Safety

It is dangerous to approach the application sites. During the application, a protective apparel, protective gloves, goggles and masks which comply with the Occupational Health and Safety Rules should be used. Due to the irritation effect of the uncured materials, the mixture should not come into contact with skin and eyes; in case of a contact, the affected area should be washed with plenty of water and soap; in case of swallowing, a physician should be consulted immediately. No food or beverages should be brought to the application area. The product should be stored and kept out of reach of children. For detailed information please consult the Material Safety Data Sheet.

Disclaimer

The technical information given in this publication is based on the present state of our best scientific and practical knowledge. **MBT Teknik Yapı Kimyasalları Sanayi ve Ticaret A.Ş.** is only responsible for the quality of the product **MBT Teknik Yapı Kimyasalları Sanayi ve Ticaret A.Ş.** is not responsible for results that may occur because the product is used other than advised and/or out of instructions regarding the place and the method of use. This technical form is valid only till a new version is implemented and nullifies the old ones.

Contact

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2184-CPR-0430
MasterJoint® PR 811
TS EN 1504-2:2004 1.3 Yabancı madde girişine karşı koruma, 2.2 Nem Kontrolü, 5.1 Fiziksel Direnç, 8.2 Nem içeriğini sınırlayarak direnci artırma *1.3 Protection against ingress, 2.2 Moisture control, 5.1 Physical resistance, 8.2 Increasing resistivity*
Beton için yüzey koruma sistemleri Surface protection systems for concrete
Kaplama uygulaması Coating application

Aşınma Direnci (Abrasion Resistance)	< 3000 mg
Karbondioksit Geçirgenliği (Permeability to CO_2)	> 50m SD
Kapiler Su Emme ve Su Geçirgenliği (Capillary Absorption and Permeability to water)	w<0,1 kg /m².√h
Çarpmaya Direnç (Impact resistance)	Sınıf III : 20 Nm Class III : 20 Nm
Su Buharı Geçirgenliği (Permeability of water vapour)	Sınıf 2 (Class 2)
Çekip koparma deneyi yoluyla yapışma dayanımı (Adhesion strength by pull-off test)	Rijit Sistemler (trafik yükü ile) > 2,0 N/mm² Rigid Systems With trafficking >2,0 N/mm²
Yangına karşı tepki (Reaction to fire)	E
Tehlikeli maddeler (Dangerous substances)	Madde 5.4 'e uygun (Comply with clause 5.4)