BERGER

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Construction Chemicals

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- CURING COMPOUNDS & MOULD RELEASING AGENTS
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BERGER

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CONCRETE ADMIXTURES

BERPLAST 200

Superior concrete water reducing agent

DESCRIPTION

Berplast 200 is a concrete plasticizer which reduces the amount of gauging water required and increases the workability, density and strength at the same cement content.

ADVANTAGES

- Increased workability
- Considerable enhancement in ultimate strength and density
- No increase in cement content for increased strength
- Dense & impermeable concrete

FUNCTION

Berplast 200 helps to reduce the excess water used in concrete which is undesirable because of void formation, shrinkage, cracking, bleeding, segregation and increased permeability. Concrete with Berplast 200 is easily workable and produces a dense concrete structure.

USES

- Berplast 200 increases the workability of concrete - particularly beneficial for pumped or pneumatically placed concrete, and for concreting in heavily reinforced structures.
- Berplast 200 reduces the total amount of water in the mix by about 8 - 15 % and improves the strength of the hardened concrete without adversely affecting its initial workability.
- Berplast 200 reduces chances of concrete bleeding and segregation.
- Berplast 200 reduces the cement (and consequently the water) content of the mix and achieves the same workability and strength as with an untreated mix at a lower cost.

METHOD OF USE

Berplast 200 can be directly added into the mix at the same time as the gauging water. Reduce water dosages for required consistency.

COMPATABILITY

Berplast 200 may be used with most Portland Cements including the sulphate resisting type. No harmful effect on reinforcing or prestressing steel.

PROPERTIES

Supply form	Liquid
Color	Brown
Specific gravity	1.15
Chloride content	Nil

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

SPECIFICATION COMPLIANCE

Conforms to ASTM C 494 - 98 Type A, IS 9103: 1979 & BS 5075 PART 1.

RECOMMENDED DOSAGE

0.2% - 0.5% by cc per weight of cement. However site trials may be carried out to determine optimum dosage levels for desired properties. It is important that the amount of Berplast 200 used should be gauged accurately.

SHELF LIFE

Practically unlimited when sealed in original containers. However, it is advisable to use within 12 months from the date of manufacturing.

PACKAGING

200 litres in high grade plastic containers.

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This Technical Data Sheet supersedes those previously issued.

BERPLAST 300 - M

High performance Superplasticizer cum Retarder

DESCRIPTION

Berplast 300 - M is a high range retarding water-reducer based on high grade modified Napthalene sulphonate, specifically formulated with the combination of resins.

ADVANTAGES

- Reduction in water-cement ratio of the order of 15 - 20%
- Considerably high early strength & easy removal of formwork
- Increased ultimate strength
- High quality concrete of improved durability & reduces heat of hydration even with very high strength cements
- Prevents cracking of structural members
- Easily pumpable
- Compatible with mineral admixtures
- Improved water tightness

FUNCTIONS

Berplast 300 - M is a new generation superplasticizer cum retarding admixture which lowers the surface tension of water and makes cement particles hydrophilic, resulting in excellent dispersion as well as controls the setting of concrete, depending on dosage. This increases the workability of concrete without air - entertainment and also imparts a coating around the aggregates leading to better cohesion. The uniform dispersion ensures better homogeneity of the mix and nullifies the risk of segregation. The workability offered at a lower water-cement ratio eliminates chances of bleeding also.

Berplast 300 - M permits proper placement and finishing, overcoming the damaging and accelerating effects of high temperatures.

Berplast 300 - M is highly advantageous where concrete pumping is desired. Ideally suited for ready mixed concrete industries where long hauls are always involved.

Berplast 300 - M has excellent slump retention properties (based on dosage) and hence is a recommended admixture when concrete is to be transported over long distances.

USES

- Berplast 300 - M provides a concrete of flowing consistency and facilitates concrete placement, especially where congestion of reinforcement occurs and vibration is difficult.
- Berplast 300 - M aids in developing high early strength, facilitating faster removal of formwork.
- Berplast 300 - M is highly useful for pre-cast concrete construction and for concrete sleepers, electric posts and for pre-stressed concrete constructions.
- Berplast 300 - M in designed proportion controls the setting of large structural units to keep concrete workable throughout the placing period. This eliminates cold joints and discontinuities.
- Berplast 300 - M helps in the production of dense and impermeable concrete, thus making it an ideal choice for coastal structures.

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

METHOD OF USE
Berplast 300 - M can be directly added into the mix at the same time as the gauging water. Reduce water dosages for required consistency.

COMPATABILITY
Berplast 300 - M can be used with all types of portland cement including blended cement, sulphate resisting cement and white cement.
Berplast 300 - M should not be pre-mixed with other admixtures. If other admixtures are to be used on concrete containing Berplast 300 - M they have to be added separately.
Berplast 300 - M has no adverse effects on reinforcing elements.

PERMEABILITY
Reduced water-cement ratio reduces capillary porosity and improves water tightness. Improved workability facilitates easy placing and good compaction, resulting in production of dense impermeable concrete.

COMPRESSIVE STRENGTH
Substantial reduction in the water content, i.e. 12% - 25% can result in high early compressive strength for a constant slump. The ultimate compressive strength can be enhanced by up to 25 % by using Berplast 300 - M with a properly designed concrete mix.

PROPERTIES

Supply form	Liquid
Color	Brown
Specific gravity	1.2
Chloride content	Nil

SPECIFICATION COMPLIANCE
Conforms to ASTM C 494-98 Type G and BS 5075 PART 1.

RECOMMENDED DOSAGE
0.4% - 1.0% Berplast 300 - M by weight of cement. Maximum dosage can be increased depending on the required early strength and set retardation, subject to corresponding modifications in the concrete mix.

SHELF LIFE
Practically unlimited in sealed original containers. However, it is advisable to use within 12 months from the date of manufacturing.

PACKAGING
200 litres. Smaller quantities can be made available on request.

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This Technical Data Sheet supersedes those previously issued.

BERPLAST 300

High grade Superplasticizer

DESCRIPTION

Berplast 300 is a high grade superplasticizer based on Naphthalene. Highly recommended for increased workability and early and later age strengths of concrete.

ADVANTAGES

- Reduction in water-cement ratio
- Optimization of cement content - cost savings
- Considerably high early strength
- Increased ultimate strength
- Improved water tightness
- Early removal of formwork
- High quality concrete of lower permeability and improved durability

FUNCTIONS

Berplast 300 disperses cement particles more rapidly in the concrete mix by reducing the surface tension of water and imparting repelling changes to the ions in solution. This makes the concrete highly workable and flowable even at lower water-cement ratios, resulting in increased strength.

USES

- Berplast 300 facilitates concrete placement especially where congestion of reinforcement occurs and vibration is not easy.
- Berplast 300 is recommended for producing pumpable concrete and is ready mixed concrete.
- Berplast 300 is highly useful for pre-cast concrete constructions and for concrete sleepers, electric posts and for pre-stressed concrete constructions.
- Berplast 300 increases durability of concrete structures by facilitating construction with the reduced water-cement ratio and hence it is ideal for marine / coastal structures, especially in tidal zones.
- Berplast 300 when incorporated into the concrete improves the workability of the concrete without air entrainment due to its excellent dispersion characteristics and also imparts coating to the aggregates. Due to this, internal and external friction is reduced and cohesion of concrete is considerably improved. The uniform dispersion ensures better homogeneity of the mix and minimizes the risk of segregation during placement.

METHOD OF USE

Berplast 300 is directly added into the mix at the same time as the gauging water. Reduce water dosages for required consistency.

COMPATABILITY

Berplast 300 can be used with all types of Portland cement including blended cements sulphate resistant cement and white cement. Berplast 300 should not be pre-mixed with other admixtures. If other admixtures are to be used on concrete containing Berplast 300 they have to be added separately. No deleterious effect on reinforcing/ pre-stressing elements. Please contact our technical cell for further details.

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

PERMEABILITY

Reduced water-cement ratio reduces permeability and improves durability. Improved workability facilitates easy placing and good compaction, resulting in production of impermeable concrete.

COMPRESSIVE STRENGTH

Substantial reduction in the water content i.e. 12% - 25% can result in high early compressive strength for a constant slump. The ultimate compressive strength can be enhanced by upto 25% by proper mix design with Berplast 300.

PROPERTIES

Supply form	Liquid
Color	Brown
Specific gravity	1.2
Chloride content	Nil

SPECIFICATION COMPLIANCE

Conforms to ASTM C 494 - 98 Type F and BS 5075 Part 1.

RECOMMENDED DOSAGE

0.3% - 1.2% Berplast 300 by weight of cement. Maximum dosage may have to be increased to as high as 3% of cement weight where exceptional early strength is required. Suitable modifications in the mix design is required in such cases.

SHELF LIFE

Practically unlimited in sealed original containers. However, it is advisable to use within 12 months from the date of manufacturing.

PACKAGING

200 litres in high grade plastic containers.

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

BERPROOF IWP LIQUID

Liquid integral waterproofing compound for cement mortar and concrete

DESCRIPTION

Berproof IWP is a liquid waterproofing admixture which can be used in concrete and cement mortar. It reduces the water demand and also improves the impermeability of concrete.

ADVANTAGES

- Instant dispersion
- Excellent reduction in permeability
- Improved workability
- Produces dense and homogenous concrete
- Imparts a water repellent property to hardened concrete
- No significant effect in the setting time of mortar/concrete

FUNCTIONS

Berproof IWP increases the resistance of concrete to water penetration by creating a hydrophobic coating within the pores. The hydrophobic coating forces the water to be pushed out of the pore by surface tension. The excellent dispersion of Berproof IWP in water facilitates improved workability for reduced water content, thereby improving many a later-age characteristic of concrete.

USES

- Berproof IWP helps to produce impermeable concrete for water retaining structures, terraces, basements, tunnels, pile foundations, etc.
- Berproof IWP can be used as a waterproof admixture in cement sand-mortar for external and internal plastering of underground structures, tanks, masonry, screed, etc.
- Berproof IWP produces cohesive concrete and hence the property of set concrete/mortar is improved.
- Berproof IWP helps in reduction of water demand for workable concrete and thus aids minimizing segregation and bleeding.
- Berproof IWP aids in preventing corrosion of steel in concrete because of reduced capillaries, and hence the life span of the building is increased.

METHOD OF USE

Berproof IWP shall be added to the gauging water before mixing to get optimum result. Reduce water content in the mix upto 15% to get excellent results.

COMPATIBILITY

Berproof IWP can be used with any type of Portland cement and sulphate resistant cement.

PROPERTIES

Supply form	Liquid
Color	Brown
Chloride content	Nil

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

SPECIFICATION COMPLIANCE
Satisfies the requirements of IS 2645-1975 (Reaffirmed to 1992) with respect to permeability test.

RECOMMENDED DOSAGE
200ml per 50kg bag of cement.

SHELF LIFE
One year in sealed containers.

PACKAGING
200 litres drum.

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This Technical Data Sheet supersedes those previously issued.

BERPROOF IWP POWDER

Waterproofing admixture for mortar and concrete

DESCRIPTION

Berproof IWP Powder is a dry mixture of stearates and polymers along with water reducing agents and specially processed minerals.

ADVANTAGES

- Reduces water requirement of concrete and mortar mixes
- Reduces permeability and water absorption of concrete and mortar without causing strength reduction
- Improves workability
- Produces dense and homogeneous concrete
- No effect on setting time of concrete / mortar

FUNCTIONS

Berproof IWP Powder helps to reduce permeability and water absorption of concrete and mortar. It thus prevents premature disintegration of concrete and masonry structures resulting from the leaching of water soluble components. It also protects building interiors against water seepage.

USES

- Berproof IWP Powder helps to produce impermeable concrete for water retaining structures, terraces, basements, tunnels, pile foundations, etc.
- Berproof IWP Powder can be used as a waterproof admixture in cement-sand mortar for external and internal plastering of underground structures, tanks, masonry, screed, etc.
- Berproof IWP Powder produces cohesive concrete and hence the property of set concrete/mortar is improved.
- Berproof IWP Powder helps in reduction of water demand for workable concrete and thus aids in minimizing segregation and bleeding.
- Berproof IWP Powder facilitates prevention of corrosion of steel in concrete because of reduced capillaries and hence the life span of the building is increased.

METHOD OF APPLICATION

Berproof IWP Powder should be mixed and thoroughly dispersed with the dry portland cement and aggregate before the addition of gauging water. In transit-mixed concrete, Berproof IWP Powder can be added to the dry mixture, mixed dry for about five minutes, and then the gauging water is to be pumped in.

COMPATIBILITY

Berproof IWP Powder can be used with ordinary portland cement, blended cements and sulphate resisting cement.

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

PROPERTIES

Supply form	Powder
Color	White
Chloride content	Nil

SPECIFICATION COMPLIANCE

Satisfies the requirements of IS: 2645 - 1975 (Reaffirmed to 1992) with respect to permeability test. The tests are carried out as per the guidelines in Appendix A of Bureau of Indian Standard Specification for Integral Cement Water Proofing Compounds.

RECOMMENDED DOSAGE

1 kg per 50 kg bag of cement.

SHELF LIFE

One year in sealed packs.

PACKAGING

1 kg

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

BER RETARDER

Controlled set retarding admixture

DESCRIPTION

Ber Retarder is a modified lignin based admixture for effecting controlled retardation in setting of concrete as well as reduction in water demand.

ADVANTAGES

Slows down the setting of concrete in:

- High ambient temperature
- Large pours - to prevent 'cold joints'
- Delays between mixing and final compaction
- Long delivery hauls
- Ready-mix concrete

FUNCTIONS

Ber Retarder increases the setting time of concrete and mortar as well as increases its ultimate compressive strength by reducing water content in the mix, to a certain extent.

USES

- Ber Retarder is a specifically formulated chemical admixture, which extends the time during which concrete remains workable. The initial and the final setting time of the cement and consequently, the slump retention of the concrete are extended in the accordance with the amount of Ber Retarder added to the mix.
- Ber Retarder significantly reduces amount of water added in the concrete mix, thus increasing the compressive strength of the concrete.

METHOD OF USE

Ber Retarder can be directly added into the mix at the same time as the gauging water. Reduce water dosages for required consistency.

COMPATIBILITY

Ber Retarder may be used with most portland cements including blended cements and sulphate resisting cement. Ber Retarder has no harmful effect on reinforcing steel, pre-stressing tendons, etc.

PROPERTIES

Supply form	Liquid
Color	Dark brown
Specific gravity	1.06 $\pm$ 0.01
Chloride content	Nil
Nitrate content	Nil

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

SPECIFICATION COMPLIANCE

Conforms to ASTM C 494 - 98 Type B

RECOMMENDED DOSAGE

The degree of retardation depends on the amount of Ber Retarder added to the mix. Usually a dosage of 200ml per 50 kg cement will be suitable, but in higher temperature or where long retardation is required, it may have to be increased depending on the desired parameters of fresh concrete. Larger doses might result in proportionately increased setting time and workability.

SHELF LIFE

Practically unlimited in sealed original containers. However, it is advisable to use within 12 months from the date of manufacturing.

PACKAGING

200 litres containers.

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

BERPLAST 100

Normal water reducing admixture for mortar and concrete

DESCRIPTION

Berplast 100 is a normal concrete plasticizer which reduces the amount of gauging water required and increases the workability and strength at the same cement content.

ADVANTAGES

- Increased workability
- Improvement in ultimate strength and density
- Reduced chances of bleeding and segregation
- Dense & impermeable concrete

FUNCTION

Berplast 100 helps to reduce the water-cement ratio of concrete, thus minimizing the chances of void formation, shrinkage, cracking, bleeding, segregation and increased permeability. Concrete with Berplast 100 is easily workable and produces a dense concrete structure.

USES

- Berplast 100 increases the workability of concrete at the same water-cement ratio. This leads to better quality of concrete in the field.
- Berplast 100 reduces the total amount of water in the mix by about 5 - 12 % and improves the strength of the hardened concrete without adversely affecting its initial workability.
- Berplast 100 reduces chances of concrete bleeding and segregation.
- Berplast 100 ensures similar strength of concrete mix at reduced cement content, thus economizing the concrete structure.

METHOD OF USE

Berplast 100 can be directly added into the mix at the same time as the gauging water. Reduce water dosages for required consistency.

COMPATABILITY

Berplast 100 may be used with all portland cements including the sulphate resisting type. No harmful effect on reinforcing or pre-stressing steel.

PROPERTIES

Supply form	Liquid
Color	Brownish
Specific gravity	1.10
Chloride content	Nil

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

SPECIFICATION COMPLIANCE

Conforms to ASTM C 494 - 98 Type A, IS 9103: 1999 & BS 5075 Part 1.

RECOMMENDED DOSAGE

0.2% - 0.9% by cc per weight of cement. However site trials may be carried out to determine optimum dosage levels for desired properties. It is important that the amount of Berplast 100 used be gauged accurately.

SHELF LIFE

Practically unlimited in sealed original containers. However, it is advisable to use within 12 months from the date of manufacturing.

PACKAGING

5, 10, 50, 100 and 210 litres in high grade plastic containers.

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This Technical Data Sheet supersedes those previously issued.

BERPLAST 400

High performance Superplasticizer for pre-cast concrete application

DESCRIPTION

Berplast 400 is a high performance, low dosage superplasticizer based on melamine, Formaldehyde Sulphonate (MFS). Highly recommended for increased early strength of concrete, which is a must for pre-cast and pre-stressed concrete industries.

ADVANTAGES

- Substantial reduction in water-cement ratio
- Considerably high early Strength
- Increased 28 day strength
- Improved water tightness
- Early removal formwork
- High quality concrete of lower permeability and improved durability

FUNCTION

Berplast 400 disperses cement particles more rapidly in the concrete mix by reducing the surface tension of water and imparting repelling changes to the ions in solution. This makes the concrete highly workable and flowable even at lower water-cement ratios, resulting in increased strength.

USES

- Berplast 400 is very advantageous for pre-cast concrete constructions and for concrete sleepers, electric posts and for pre-stressed concrete constructions.
- Berplast 400 facilitates concrete placement especially were congestion of reinforcement occurs and vibration is not easy.
- Berplast 400 is ideal for pre-stressed bridge girders of large spans.
- Berplast 400 increases durability of concrete structures by facilitating construction with the reduced water-cement ratio and hence is ideal for marine / coastal structures, especially in tidal zones.
- Berplast 400 when incorporated into the concrete improves the workability of the concrete without air entrainment due to its excellent dispersion characteristics. The uniform dispersion ensures better homogeneity of the mix and minimizes the risk of segregation during placement.

METHOD OF USE

Berplast 400 is directly added into the mix at the same time as the gauging water. Reduce water dosages for required consistency.

COMPATABILITY

Berplast 400 can be used with all types of portland cement including blended cements, sulphate resistant cement and white cement. Berplast 400 should not be premixed with other admixtures. If other admixtures are to be used on concrete containing Berplast 400 they have to be added separately. No deleterious effect on reinforcing / pre-stressing elements.

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

PERMEABILITY

Reduced water-cement ratio reduces permeability and improves durability. Improved workability facilities easy placing and good compaction, resulting in production of impermeable concrete.

COMPRESSIVE STRENGTH

Substantial reduction in the water content i.e. 20% - 25% can result in high early compressive strength for a constant slump. The ultimate compressive strength can be enhanced by up to 25% by proper mix design with Berplast 400.

PROPERTIES

Supply form	Liquid
Color	Transparent
Specific gravity	1.1 + .03
Chloride content	Nil

SPECIFICATION COMPLIANCE

Conforms to ASTM C 494 - 99 Type F and BS 5075 Part 1, IS-9103-1999

RECOMMENDED DOSAGE

0.3% - 1.2% Berplast 400 by weight of cement. Maximum dosage may have to be increased to as high as 2% of cement weight where exceptionally high strength is required. Suitable modifications in the mix design is required in such cases.

SHELF LIFE

Practically unlimited in sealed original containers. However, it is advisable to use within 12 months from the date of manufacturing.

PACKAGING

50, 100 and 210 litres in high grade plastic containers.

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STRUCTURE REPAIRS

BERPOLYPROPYLENE FIBER

High performance polypropylene fiber

DESCRIPTION

Berpolypropylene Fiber is 100% virgin polypropylene fiber used for cementitious material as a crack controlling agent.

ADVANTAGES

- Excellent crack reduction in concrete and mortar
- Improves impact resistance
- Reduces segregation
- Improves durability of concrete and mortar
- Easy to use
- Improves fire resistance
- Improves tensile and flexural strength

FUNCTION

Berpolypropylene Fiber acts as a crack controlling agent for concrete and mortar which can occur through plastic shrinkage and early thermal changes.

USES

Berpolypropylene Fiber is used as a crack controlling agent for:

- Plain concrete
- Reinforced concrete
- Ready-mix concrete
- Shotcreting
- Mortars
- Screeds
- Grouts
- Repairs

SPECIFICATION COMPLIANCE

Berpolypropylene Fiber conforms to ASTM C 111.60

GRADES AVAILABLE

Berpolypropylene Fiber is available in 6mm, 12mm, 19mm, 25mm and 50mm.

COMPATIBILITY

Berpolypropylene Fiber is compatible with all concrete admixtures of Berger.
Berpolypropylene Fiber is also suitable for all types of cements OPC, SRC and other cement replacement materials like PFA,GGBFS, slag, flyash and silica fume.

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

PHYSICAL AND CHEMICAL PROPERTIES

Form	Virgin polypropylene fibers
Specific gravity	0.91 g/cm^3
Chloride content	Nil
Alkali content	Nil
Sulphate content	Nil
Elongation at break	200 - 500%
Melting point	160 ºC
Water absorption	Negligible
Young's modulus	5000 - 7500 MPa
Thermal conductivity	Low
Electrical conductivity	Very low
Alkali resistance	100%
Acid resistance	High
Salt resistance	High

DOSAGE

The optimum dosage of Berpolypropylene Fiber to meet the specific requirements should always be determined by trail mixes.
Normal dosage: 1 - 3% by weight of cement

STORAGE

Berpolypropylene Fiber should be stored in dry and cool conditions in original packing.

HANDLING

Use in well-ventilated area. Avoid contacting with eyes, skin and clothing. Wear safety glasses and impervious gloves when handle and use.

PACKAGING

Available in 25 kg and 100 kg packing.

SAFETY PRECAUTIONS

Avoid contact with eyes or sensitive skin. Wash thoroughly if eyes or sensitive skin gets affected.

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This Technical Data Sheet supersedes those previously issued.

NOTICE

Berger Paints Pakistan Ltd. is a manufacturer and supplier of materials and cannot therefore act in an engineering capacity in giving of advice or diagnosis of structural or related problems. Thus it cannot accept any liability arising either directly or indirectly from the use of its products whether or not in accordance with any advice recommendation or information, written or otherwise, supplied by it. The above information is based on the present available knowledge and may be changed/ amended with the new developments.

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

BERPOLYCURE - W

Wax based concrete curing compound

DESCRIPTION

Berpolycure - W is a wax based curing compound which when applied on concrete forms a seamless film and prevent the evaporation of water from the capillaries of concrete.

ADVANTAGES

- Eliminates use of water, hessian or polyethylene film completely
- No risk of erratic or poor curing and ensures that the cement hydrates efficiently
- Good solar reflectance, which keeps the concrete temperature low, especially helpful during the early stages of concrete hydration
- Easy to apply & saves labor costs
- Does not have any contaminants like chlorides, etc.
- Does not affect the setting time of concrete

FUNCTIONS

Cement hydration process demands that water be present in the system. Curing is adopted to prevent the loss of water from the hardening concrete interior so that strength development is not impaired. Conventional curing methods like ponding or damp covering are not reliable because they depend heavily on environmental condition.
Berpolycure - W assures that the film does not leave water out of the system and hydration proceeds to its completion.

USES

Typical uses are for:

- Vertical structural member like columns
- Canal lining, dams & other irrigation structures
- Airport runways
- Aprons and hard standings
- Roof decks and shell-roof
- Retaining walls & harbors
- Pre-stressed beams, columns, etc.
- Exposed surfaces of dams
- Repair works

METHOD OF USE

Application: In all cases the nozzle of the spray should be held approximately 450mm from the concrete surface and should be passed back and forth to ensure complete and even coverage. The pump pressure should be maintained at a level to produce a fine spray ensuring complete coverage of the surface. Rate of application depends on requirements, but is typically within the range of 3.5 to 4.5m^2 per litre.

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

Equipment: The preferred and generally used equipment is a knapsack sprayer of the type commonly used in horticulture or pest control. The ideal one is a knapsack sprayer with a capacity of 5 - 10 Litres fitted with an adjustable spray nozzle.
Equipment cleaning: Immediately after use the spray equipments should be cleaned thoroughly with fresh water. If the spray nozzle becomes blocked with wax particles, they should be removed with white spirit or similar fluid.

PROPERTIES

Water loss after 72 hrs	Not more than 0.55 Kg/m^2
Appearance	Bulk liquid - Milky white
Dry film color	White
Viscosity	5 to 10 cps
Reflectance	More than 60% to that of Mg0
Min. application temp.	4 ºC

SPECIFICATION COMPLIANCE

Berpolycure - W conforms to ASTM C309 - 99 & ASTM C156 - 99 (a)

COVERAGE

3.5 to 4.5 m^2/litre

STORAGE

Store in cool and dry place away from direct sunlight

SHELF LIFE

12 months in sealed container.

PACKAGING

5, 10, 50, 100 and 210 litres containers.

BERGRIP

Prepackaged, single component, polymer-modified mortar

DESCRIPTION

Bergrip prepackaged polymer-modified mortar is a ready to use, specially formulated, single component, and polymer-modified cementitious mortar in powder form.

COMPOSITION

Bergrip contains specially selected high performance hydraulic cement, fillers, fine aggregates, a combination of synthetic polymers including film-forming redispersible polymer powder, anti-foaming, water repelling and viscosity modifying agents.

ADVANTAGES

- Highly reduced water curing when used in pure form
- Good water retention in fresh state for durable repairs
- Excellent bond strength and elasticity yet having required compressive strength for structural applications
- Crack resistant
- Suitable for making earthquake resistant structures
- Effective for integral waterproofing
- Acts as a weather shield against hostile atmospheric conditions
- Can be used in reduced thickness in comparison to ordinary mortar
- Very high cost benefit ratio

USES

- Repairs and renovation of concrete structures
- Integral waterproofing of basements plinth beams, damp proof courses, tanks, roofs, water tanks, reservoirs, concrete bridges, dams, etc.
- Crack filling
- Construction joint filling
- Old and new concrete jointing
- Bond coats
- Concrete metal, PVC asbestos, pipe joint repairs
- Chemicalcorrosion and weather resistant uses, including protection against sea chloride and soil sulphate salt attacks
- Tiles, stones and marbles pasting and grouting in adverse conditions
- Decorative and protective plastering
- Surface preparation uses
- Deck coverings
- Can be used as such or as an admixture to mortar and concrete mixes for improved performance and durability in ratios ranging from 7% or over to the weight of cement in the mix

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

TYPICAL APPLICATIONS OF BERGRIP

Application	Location of Work
Floorings and pavements	Floors for houses, warehouses, schools, hospitals, offices, shops, toilets, gymnasium and factories, passages, stairs, garages, railway platforms, roads, airport runways, monorails, etc.
Integral waterproofing and liquid applied membrane	Concrete roof decks, mortar walls, concrete block walls, water tanks, swimming pools, septic
Waterproofing	Tanks, silos, etc.
Adhesives	Tile adhesives, adhesive for floorings, walling materials and heat insulating materials, adhesives for joining new cement concrete or mortar to old cement concrete or mortar, etc.
Decorative coatings (including surface preparing materials)	Wall coatings, lightweight aggregate coating materials, cement filling compounds and self-leveling cements for surface preparations, etc.
Repair materials	Grouts for repairing cracks and delamination of concrete structures, patching materials for damaged concrete structures, rustproof coatings for corroded reinforcing bars, etc.
Anticorrosive linings	Effluent drains, chemical or machinery plant floors, grouts for acid proof tiles, floors for laboratories, pharmaceuticals warehouses, tanks, hot spring baths, rustproof coatings for steel roof decks and soils, etc.
Deck coverings	Internal and external ship decks, bridge decks, footbridge decks, train floors, etc.
Admixture to mortar and concrete	For improving the mechanical and durability characteristics of mortar and concrete

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

METHOD OF USE:

(a) When used as a bond coat:

- Add potable water gradually in contents of bag till a paste of brushable consistency is prepared.
- About 700 - 800ml water is sufficient but depends on ambient temperature.
- Apply this paste by brush or any other suitable means in single coat on the hard and cleaned surface to be repaired.
- Ensure that Bergrip modified plaster or concrete used for repair is placed before drying this bond coat.

(b) When used as an admixture in plaster or concrete:

- Add the contents of bag according to desired percentage (by weight of cement) in mortar or concrete mix to be used.
- For most repairs, the required quantity of Bergrip is 7 to 20% (by weight of cement in mix) depending upon nature of work.
- Higher percentages can be used for specific nature of work.
- Mixing, placing and curing needs same treatment as that of ordinary cement concrete.

(c) When used for filling of cracks or repair of typical narrow spaces of specific nature:

- Add potable water to contents of bag gradually till a mix of desired consistency (depending upon nature of repair work) is prepared.
- Fill this paste in cleaned, washed and dampened surface of hair cracks and narrow spaces.
- For wider cracks, chip off loose material making U - groove, apply slurry of Bergrip as bond coat followed by filling with Bergrip pure or in the form of Bergrip modified mortar or concrete depending upon size of repair patch.
- Apply 2 - 3 days moist curing by sheltering from direct sun or hot air by hanging wet burlap, covered by polythene sheet inches away from surface or by gentle water spray and allow to dry.

(d) When used for repair of pipes (GI, PVC, Asbestos and RCC Pipes):

- Add potable water to contents of bag gradually till a paste of desired consistency (depending upon nature of work) is prepared.
- Coat the cleaned, washed pipe by paste using brush, spray or any other means.
- Joints of pipe are sealed better if Bergrip modified mortar is applied on joints already primed with Bergrip Slurry.
- Provide 2 - 3 days moist curing to repaired surface as mentioned in ‘C’ above.

COVERAGE

1kg of Bergrip covers about 80 sqft area when used as bond coat. However, in various applications mentioned above, the actual coverage depends upon nature of job.

STORAGE

Not affected by frost. Store in cool and dry conditions.

SHELF LIFE
12 months in sealed container.

PACKAGING
1kg, 5kg (in plastic bags) and 25kg (in polythene lined paper bags).

SPECIFICATION COMPLIANCE
Conforms to ACI 548, PS 4035 and JIS A 6916 and other related standards.

SAFETY PRECAUTIONS
Avoid contact with eyes or sensitive skin. Wash thoroughly if eyes or sensitive skin gets affected.

NOTICE
Berger Paints Pakistan Ltd. is a manufacturer and supplier of materials and cannot therefore act in an engineering capacity in giving of advice or diagnosis of structural or related problems. Thus it cannot accept any liability arising either directly or indirectly from the use of its products whether or not in accordance with any advice recommendation or information, written or otherwise, supplied by it. The above information is based on the present available knowledge and may be changed/ amended with the new developments.

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

BERLATEX SBR

Styrene Butadiene Rubber Co-Polymer Latex

Water-resistant additive and bonding agent for cementitious systems

DESCRIPTION

Berlatex SBR is styrene butadiene rubber copolymer latex which has been specifically designed for use with cement compositions. It can be used to form water and vapour resistant bonding coats, prior to application of renders, plasters or screeds. Berlatex SBR aids in better mechanical properties by ensuring a sound contact area between old and new concrete.

FUNCTIONS

Berlatex SBR when incorporated into cement mortar mixes, forms polymer modified system with interpenetrating polymer films which exhibits excellent adhesion, improved tensile, flexural and compressive strengths, excellent resistance to water, water vapour and improved chemical resistance.

ADVANTAGES

- Excellent bond strength
- Improved tensile, flexural and compressive strength
- Resistant to water penetration
- Highly recommended for repairs and rehabilitation of structures
- Easy to use

USES

- Berlatex SBR can be used for repairing concrete elements like beams, columns and slabs.
- Berlatex SBR is an excellent material for bedding tiles, fixing slip bricks, waterproofing above and below grade, abrasion resistant flooring and lining effluent tanks and tubes.
- Berlatex SBR provides excellent adhesion between old and new concrete and hence ensures a monolithic system after repair.

METHOD OF APPLICATION

When Berlatex SBR modified mixes are used, it is essential that the following procedures are closely followed.

SURFACE PREPARATION:

Remove all laitance, oil, grease, mould oil, curing compound, etc. using a wire brush or for large floor areas, a scrubbing machine. Ensure that reinforcing steel is clean and free from grease or oil, remove scale and rust. When repairing spalled or damaged concrete, ensure exposed sound surface.

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

BONDING SLURRY OR BOND COAT:

Ensure that absorbent surfaces such as concrete, brick, stone, etc. are saturated surface dry. Prepare bonding slurry consisting of 2 parts cement to 1 part Berlatex SBR mixed to a lump free consistency. Using a stiff brush, work the bonding slurry well into the damp surface ensuring that no pinholes are visible. Do not apply bonding slurry at thickness in excess of 2mm. If a second coat is necessary, it must be applied after allowing the first coat to “flash-off”.

PREPARATION OF BERLATEX SBR MODIFIED MIX:

It is important that the Berlatex SBR modified mix is applied to the wet bonding slurry. If the bonding slurry dries, another coat must be applied. The proportions and quantities of sand, cement and Berlatex SBR differ for particular applications (see mix design).

WORKABILITY:

The strong plasticizing action of Berlatex SBR allows the water-cement ratio to be reduced to a minimum consistency with workability required for application.

MIXING:

Mixing should preferably be carried out in a concrete mixer although hand mixing is permissible where the total weight of the mix does not exceed 25kg. Charge the mixer with the required quantity of sand and cement, and premix for approximately one minute. Pour the desired quantity of Berlatex SBR and mix for 2 to 3 minutes. Finally, add water little by little, until the required consistency is achieved. Owing to the strong plasticising properties of Berlatex SBR, it is best to add water cautiously as rapid thinning can occur.

CURING:

It is preferable to cure Berlatex SBR modified mortars as soon as they are laid to prevent rapid evaporation of water essential for hydration. This can be achieved by using polythene, damp hessian or a suitable concrete curing membrane.

COMPATABILITY

Berlatex SBR is compatible with all types of OPC, sulphate resisting and high alumina cements.

PROPERTIES

Supply form	White liquid
Specific gravity	1.01 at 20 °C
Toxicity	Nil

SPECIFICATION COMPLIANCE

Berlatex SBR meets ASTM C 1059-99, Standard Specification for Latex Agents for Bonding Fresh to Hardened Concrete, Type II.

SHELF LIFE
Indefinite in manufacturer's sealed containers. Avoid prolonged storage in excessive heat.

PACKAGING
Available in 10, 20 litre containers. Bigger packing is available on request.

APPLICATION DETAILS AND TYPICAL MIXES
APPLICATION VERTICAL SURFACES (RENDERS):
For renders, it is preferable to apply Berlatex SBR modified mortars in coats to a maximum thickness of 6mm per coat, as greater thickness can lead to slumping. However, several coat can be applied in fairly rapid succession usually within 15 - 30 minutes. Thicker coatings can be applied provided suitable formwork is used. Close the surface using a wooden float or steel trowel.

HORIZONTAL SURFACES:
Screeds, patches, etc. based on Berlatex SBR modified cements can be laid to any thickness down to a feather edge. After mixing, the Berlatex SBR modified mix should be poured over the still wet bonding slurry and struck off. It may then be trowelled to the required finish using a wooden float or steel trowel.

MIX DESIGN:
1- Waterproof repairs for spelled and damaged concrete, precast beams, harbor, walls, panels and floors
Ensure surface is moistened and prepare and apply bonding slurry (see method of application).

Mix: Cement 50kg, sand 150kg and Berlatex SBR 10 litres.
Add water to the above mix to achieve desired consistency (approx.10 litres water), yields approx. 0.1m^3.

Application: When preparing or applying mixes, follow guideline under method of application.

2- Waterproof and chemical resistance bonding and bedding mortar for fixing slip bricks, tiles, glass, blocks, mosaics, kerb stones and pre-cast units
Ensure surface is moistened and prepare and apply bonding slurry (see application)

Mix: Cement 50 Kg, Sand (zone 2) 150 Kg and Berlatex SBR 15 litres.
Add Water to achieve desired consistency (approx. 5 litres) yield approx. 0.1m^3.

Application: When preparing or applying mixes follow instructions under method of application. Apply bonding slurry to both surfaces. Using “buttering” techniques apply mortar to slurry coated surface. Brace where necessary.

These mix designs are only suggested mixes to show some applications and uses of Berlatex .

PROPERTIES

Typical properties of a Berlatex SBR modified cement and sand mix in the proportion of 3 parts sand to 1 part cement, are as follows:

Compressive strength	69N/mm^2
Tensile strength	6.5N/mm^2
Flexural strength	13N/mm^2
Freeze thaw resistance	Excellent
Water vapor permeability	Reduced by 96%
Adhesion	Excellent to concrete, steel, brick, glass, etc.
Coefficient of thermal	(at - 20 to + 20 oC 12.8 x 10-6)
Expansion	(at + 20 to + 60 oC 12.9 x 10-6)
Chemical resistance	Resists mild acids alkalis sulphate, chlorides, urine, dung, lactic acid, sugar, etc.
Resistance to water	Excellent - no water
Under pressure-30 meter-head	penetration

NOTICE

Berlatex SBR modified mixes can be applied to damp but not wet surfaces. When running water is present this must first be sealed and plugged using Rapid Hardener or in extreme cases by dewatering. This is recommended prior to tackling waterproofing projects. All tools should be cleaned with water immediately after use. Solvents such as white spirit or toluene can be useful in removing hardened mortar, should this be necessary.

BER FIBERCRETE

Fiber Reinforced Repair Mortar

DESCRIPTION

Ber Fibercrete is a blend of a modified cementitious compound, selected grade of performance enhancing minerals, synthetic fibers and polymer additives, which guarantee excellent mechanical properties as well as adhesion to surfaces.

ADVANTAGES

- Easy to use ready-mixed powder
- Excellent adhesion to concrete surfaces
- Non-shrink
- Fibers eliminate the possible formation of cracks even when applied in thick coats
- No need of use of forms in repairs

FUNCTIONS

Ber Fibercrete is a ready-mixed cementitious powder, which forms a workable and cohesive mix on addition of water. It may be applied vertically, even in thick coats, without the need to use a form. Ber Fibercrete binds itself to the old concrete creating a monolithic repaired surface.

USES

- Ber Fibercrete is suitable for repairs, plastering, rendering of gravel nests and concrete restart castings, reconstruction of reinforced concrete, etc.
- Ber Fibercrete is ideal for repair of concrete exposed to hot temperatures since the fibers will aid in minimizing plastic shrinkage cracking.
- Ber Fibercrete application can serve as a surface layer in floors subject to heavy loads or abrasion because of its increased ductility.
- Ber Fibercrete can be used to repair concrete in balcony frontages damaged due to corrosion of reinforcing steel.
- Ber Fibercrete can be used in all works where consistent thickness is required for repairs without the use of forms.
- Ber Fibercrete is ideal for patching potholes in Industrial floors and for leveling the runway damaged areas.

METHOD OF APPLICATION

SURFACE PREPARATION:

The adhesion of Ber Fibercrete is greatly impaired if the surface is not prepared thoroughly. The surfaces must be cleaned by chiseling or high-pressure water cleansing, or brushing. The surface must be dry and free from dust, oil, loose particles and laitance in order to derive maximum benefit out of Ber Fibercrete.

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This Technical Data Sheet supersedes those previously issued.

MORTAR PREPARATION:

Mix the clean water @ 4 - 4.5 litres per 25 kg of Ber Fibercrete slowly by stirring thoroughly till a uniform consistency is obtained. The use of an ordinary cement mixer or low speed mixer is preferred. The mixing time generally varies between 3 - 4 minutes. Ensure a smooth & even consistency of the material before placing.

APPLICATION:

Ber Fibercrete mix can be applied to the required areas using trowel. For applications such as structural plaster on extended surfaces, it is always better to apply a spray coat of Ber Fibercrete mixed with Ber Polymer Latex in a rough coat of fluid consistency so as to create better bonding. For preparing spray coat, 25 kg of Ber Fibercrete should be mixed with 2 litres of Ber Polymer Latex and 4 litres of water and should be applied within a maximum of 30 minutes after mixing, in successive layers with a maximum thickness of 4cm per coat until the desired overall thickness is reached.

FINISHING:

Painting of the restored structure may be carried out after eight days using water based acrylic products but solvent based paint will need longer seasoning times.

STORAGE

Ber Fibercrete will retain its properties for atleast 6 months when kept in the original packing. Storage at low temperature in dry place extends shelf life.

SAFETY PRECAUTIONS

Avoid contact with eyes or sensitive skin. Wash thoroughly with plenty of water if eyes or skin gets affected.

PACKAGING

Ber Fibercrete is available in 25 kg packs.

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

BER POLYMER LATEX

Polymer additive and bonding agent for cementitious systems

DESCRIPTION

Ber Polymer Latex is a versatile acrylic co-polymer additive specifically formulated for use with cementitious systems.

ADVANTAGES

- Excellent bond strength
- Improved tensile, flexural and compressive strength
- Resistant to water penetration
- Ideal material for bonding old and new concrete
- Easy to use
- Mortar/concrete additive to plug leakages

FUNCTIONS

Ber Polymer Latex when incorporated into cement mortar mixes, forms polymer modified system which exhibits excellent adhesion, improved tensile, flexural and compressive strength, excellent, resistant to penetration of water, improved chemical resistance, etc.

USES

- Ber Polymer Latex can be used for repairing concrete elements like beams, columns and slabs.
- Ber Polymer Latex is an excellent material for bedding tiles, fixing slip bricks, waterproofing above and below grade, abrasion resistant flooring and lining effluent tanks and tubes.
- Ber Polymer Latex provides excellent adhesion between old and new concrete and hence ensures a monolithic system after repair.

METHOD OF APPLICATION

SURFACE PREPARATION:

Remove all laitence, oil, grease, mould oil, curing compound, etc. using a wire brush and for large floor areas, use a scrubbing machine. Ensure that reinforcing steel is clean and free from grease or oil, remove scale and rust. When repairing spalled or damaged concrete, ensure exposed sound surface.

BONDING SLURRY:

Ensure that absorbent surfaces such as concrete, brick, stone, etc. are saturated surface dry. Prepare bonding slurry consisting of 2 parts cement to 1 part Ber Polymer Latex, mixed to a lump free consistency. Using a stiff brush, work the bonding slurry well into the damp surface ensuring that no pinholes are visible.

Do not apply bonding slurry at thickness in excess of 2mm. If a second coat is necessary, it must be applied after allowing the first coat to “flash-off”. It is important that the Ber Polymer Latex modified mix is applied to the wet bonding slurry. If the bonding slurry dries, another coat must be applied.

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

WORKABILITY:

The strong plasticizing action of Ber Polymer Latex allows the water cement ratio to be reduced to a minimum consistency with workability required for application.

MIXING:

Mixing should preferably be carried out in a concrete mixer although hand mixing is permissible where the total weight of the mix does not exceed 25 kg.
Charge the mixer with the required quantity of sand and cement and premix for approximately one minute. Pour the desired quantity of Ber Polymer Latex and mix for 2 - 3 minutes. Finally, add the water little by little, until the required consistency is achieved. Owing to the strong plasticizing properties of Ber Polymer Latex, it is best to add the water cautiously as rapid thinning can occur.

APPLICATION:

Vertical (Renders) & Horizontal Surfaces

For renders, it is preferable to apply Ber Polymer Latex compound modified mortar in coats to a maximum thickness of 6 mm per coat, as greater thickness can be lead to slumping. However, several coats can be applied in fairly rapid succession usually within 45 to 90 minutes. Thicker coatings can be applied providing suitable form work. Screeds, patches etc., based on Ber Polymer Latex compound modified cements, can be laid to any thickness down to a feather edge. After mixing the Ber Polymer Latex compound modified mix should be poured over the still wet bonding slurry and struck off. It may then be trowelled to the required finish using a wooden float or steel trowel.

TYPICAL MIX PARAMETERS FOR MODIFIED MORTARS

Patching, Repair Mortars and Renders

Cement	50 kg
Washed sand (zone 2) free from excessive fines	150 kg
Ber Polymer Latex	5 litres
Water - add sufficient to give required consistency	

COVERAGE

Bonding slurry	Approx. 8-10m^2 per litre depending on substrate
Top coat	Depends on mix design

COMPATIBILITY

Ber Polymer Latex is compatible with all types of OPC, sulphate resisting and high alumina cements.

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

PROPERTIES

Supply form	White liquid
Specific gravity	1.01 at 20 ºC
Toxicity	Nil

SPECIFICATION COMPLIANCE

Ber Polymer Latex meets ASTM C1059 - 99, Standard Specification for Latex Agents for Bonding Fresh to Hardened Concrete, Type II.

SHELF LIFE

Indefinite in manufacturer's sealed containers. Avoid prolong storage in excessive heat.

PACKAGING

Available in 20 & 200 litre plastic containers.

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

BER REPAIR PASTE

Polyester resin mortar for general concrete repairs

DESCRIPTION

Ber Repair Paste is a two component specially formulated polyester resin and hardener system with selected graded fillers for fast and easy reinstatement of concrete.

ADVANTAGES

- Excellent bond strength
- Stronger than concrete
- Resistant to oil, grease and chemicals
- Quick and easy to use
- Versatile in nature
- Wide range applications

FUNCTIONS

The polyester resin reacts with cementitious hardener by way of polymerization process to form a quick setting, non-expansive system having excellent mechanical properties like high compressive, flexural and tensile strength which is abrasion resistant and also chemical resistant.

USES

- Ber Repair Paste is ideal for high strength and for quick reinstatement of concrete
- Ber Repair Paste can be used for bedding, jointing and profiling of concrete and also for general repairs.
- Ber Repair Paste facilitates jointing between pre-cast units, fixing tiles, cladding, etc.
- Ber Repair Paste is ideal for patching pot holes in industrial floors, for levelling the runway damaged areas
- Ber Repair Paste can be suitable for fertilizer plants, wharves, jetties and also in chemical laboratory repairs
- Ber Repair Paste aids in repairing of damaged concrete in pre-cast units, stair treads, curbs, manhole covers, door and window frames, etc.

METHOD OF APPLICATION

SURFACE PREPARATION:

The adhesion of Ber Repair Paste film is greatly impaired if the surface is not prepared thoroughly. The surfaces must be dry and free from moisture, dust, oil, loose particles and laitence in order to achieve maximum benefit out of Ber Repair Paste.

MIXING:

Mix the hardener powder slowly by stirring thoroughly to the required quantity of resin till a uniform consistency is obtained. Placing should be done within the gel time, which decreases with increase in temperature. Ensure a smooth even consistency of the grout before placing.

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

PLACING:

In the case of dense substrates, before Ber Repair Paste application, priming is required using resin only or with resin and hardener in flow able grade to ensure surface is completely wetted out.
Ber Repair Paste single layer can be applied upto a thickness of 12mm, if thickness of more than 12mm is required, layer by layer application has to be followed after 3.5 hours of completion of each layer.

PROPERTIES

Supply form	Resin & hardener
Mixing ratio	Base 60% hardener 40%
Chemical resistance	Excellent
Compressive strength	780 kg/cm^2 in 7 days
Flexural strength	25 N/mm^2
Tensile strength	12 N/mm^2
Gel time	15 minutes
Hardening time	45 minutes

STORAGE

Ber Repair Paste will retain its properties for atleast 6 months when kept in the original packing. Storage at low temperature extends shelf life.

SAFETY

Avoid contact with skin for prolonged period. In case of contact with eye, wash immediately with plenty of water and solvents are not advisable for cleaning hands.

PACKAGING

Ber Repair Paste is available in 3 kg units. Comprises of resin (1.8kg) and hardener (1.2kg).

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This Technical Data Sheet supersedes those previously issued.

BER POLY-MORTAR - PE

Polyester resin mortar for general concrete repairs

DESCRIPTION

Ber Poly-mortar - PE is a two component specially formulated polyester resin and hardener system with selected graded fillers for fast and easy reinstatement of concrete.

ADVANTAGES

- Excellent bond strength
- Stronger than concrete
- Resistant to oil, grease and chemicals
- Quick and easy to use
- Versatile in nature
- Wide range applications

FUNCTIONS

The polyester resin reacts with cementitious hardener by way of polymerization process to form a quick setting, non-expansive system having excellent mechanical properties like high compressive, flexural and tensile strength which is abrasion resistant and also chemical resistant.

USES

- Ber Poly-mortar - PE is ideal for high strength and for quick reinstatement of concrete
- Ber Poly-mortar - PE can be used for bedding, jointing and profiling of concrete and also for general repairs.
- Ber Poly-mortar - PE facilitates jointing between pre-cast units, fixing tiles, cladding, etc.
- Ber Poly-mortar - PE is ideal for patching pot holes in Industrial floors, for levelling the runway damaged areas
- Ber Poly-mortar - PE can be suitable for fertilizer plants, wharves, jetties and also in chemical laboratory repairs
- Ber Poly-mortar - PE aids in repairing of damaged concrete in pre-cast units, stair treads, curbs, manhole covers, door and window frames, etc.

METHOD OF APPLICATION

SURFACE PREPARATION:

The adhesion of Ber Poly-mortar - PE film is greatly impaired if the surface is not prepared thoroughly. The surfaces must be dry and free from moisture, dust, oil, loose particles and laitence in order to achieve maximum benefit out of Ber Poly-mortar - PE.

MIXING:

Mix the hardener powder slowly by stirring thoroughly to the required quantity of resin till a uniform consistency is obtained. Placing should be done within the gel time, which decreases with increase in temperature. Ensure a smooth, even consistency of the grout before placing.

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

PLACING:

In the case of dense substrates, before Ber Poly-mortar - PE application, priming is required using resin only or with resin and hardener in flowable grade to ensure surface is completely wetted out. Ber Poly-mortar - PE single layer can be applied upto a thickness of 12mm, if thickness of more than 12mm is required, layer by layer application has to be followed after 3.5 hours of completion of each layer.

PROPERTIES

Supply form	Resin & hardener
Mixing ratio	Base hardener (by volume)1:3
Chemical resistance	Excellent
Compressive strength	780 Kg/cm^2 in 7 days
Flexural strength	25 N/mm^2
Tensile strength	12 N/mm^2
Gel time	15 minutes
Hardening time	45 minutes

YIELD

Packing	Yield / bag	
	in litres	In m^3
4 kg	2.6 ltr	0.0026 m^3
20 kg	13 ltr	0.013 m^3

Please consult Berdex technical cell for further details.

STORAGE

Ber Poly-mortar - PE will retain its properties for atleast 3 months when kept in the original packing. Storage at low temperature extends shelf life.

SAFETY

Avoid contact with skin for prolonged period. In case of contact with eye, wash immediately with plenty of water and solvents are not advisable for cleaning hands.

PACKAGING

Ber Poly-mortar - PE is available in 4 kg and 20 kg units. It comprises of resin and hardener in the ratio of 1:3.

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

BER POLY CRACKFILLER

Polymer modified cementitious crack filling agent

DESCRIPTION

Ber Poly Crackfiller is a specially formulated non-shrink polymeric cementitious material to be used for filling unsightly cracks in concrete, masonry and plaster surfaces.

ADVANTAGES

- Excellent crack filling ability
- Non-shrink
- Resists further crack growth
- Patches shrinkage cracks in plaster

FUNCTIONS

The Polymer modified cementitious system, by virtue of its polymeric reaction as well as cement hydration produces a strong and dense system, which performs well in tension than conventional cement-sand mortar. Thus, the cracking tendency is further reduced.

USES

- Ber Poly Crackfiller fills cracks in masonry, concrete and plaster.
- Ber Poly Crackfiller can be used as an external rendering coat to even out surfaces.
- Ber Poly Crackfiller gives a clean appearance to cracked surfaces.
- Ber Poly Crackfiller minimizes further risk of cracking.

METHOD OF USE

Develop the cracks to 6mm deep V - grooves. Clean grooves using wire brush and sprinkle water. Mix 3 - 4 parts of crackfiller with one part of water to obtain a consistent paste. Apply with a suitable putty blade. After this has set, polishing with emery paper is recommended. For renders, apply the paste to around 3mm thickness.

COVERAGE

40 RM/kg to fill a V - groove of 6mm depth. 3 sq. ft. / kg for 3mm thick render.

PROPERTIES

Supply form	Powder
Color	Grey / White

PACKAGING

1 kg packs

SAFETY

Avoid contact with skin for prolonged period. In case of contact with eye, wash immediately with plenty of water. Solvents are not advisable for cleaning hands.

SHELF LIFE & STORAGE

Ber Poly Crackfiller has to be used within 6 months from the date of manufacturing. It has to be stored in original bags to protect from dampness.

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

BER MICRO - CONCRETE

Free flow micro - concrete for demanding concrete repairs

ADVANTAGES

- Excellent adhesion with parent concrete, positive grip with reinforcement
- High early and final strength
- Efficient restoration material
- Compensation for shrinkage and settlement in the plastic state
- High fluidity enables placing without Vibration
- Easy to use
- Prepacked system overcomes the batched weight variations

FUNCTIONS

Ber Micro - Concrete is a non-shrink cementitious micro concrete with 5 - 12mm down aggregates, for repairs and restoration of reinforced concrete elements. The excess of adhesion property of Ber Micro - Concrete enables the placing in awkward locations also.

USES

- Ber Micro - Concrete is compatible for use with different concrete grades and can also be used for slim sections.
- Ber Micro - Concrete is widely used in repairs where conventional concrete placing and vibrating is difficult in case of reinforcement congestion.
- Ber Micro - Concrete is an ideal material for structural strengthening of columns, beams, etc. by encasement.
- Ber Micro - Concrete can be used for repairing larger sections by mixing with 5 - 12mm aggregates in the proportion of 50 to 100% by weight of micro-concrete.

METHOD OF APPLICATION

The damaged / cracked portion has to be removed with chisel, hammer and the surface should be cleaned with wire brush. The Parent concrete must be applied with Ber Bond EP the epoxy-bonding agent for proper adhesion. Ber Micro - Concrete has to be poured to the areas by providing encasements. Ber Micro - Concrete should be kept in a water pond for 7 days for curing to attain good strength.

PACKING

Ber Micro - Concrete is available in 25 kg packing.

SAFETY

Avoid contact with skin for prolonged period. In case of contact with eye, wash immediately with plenty of water and solvents are not advisable for cleaning hands.

SHELF LIFE & STORAGE

Ber Micro - Concrete has to be used within 6 months from the date of manufacturing. It has to be stored in original bags to protect from dampness.

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

BER MOULD RELEASE AGENT - M

Chemical treatment for moulds and shutters ensures quick and clean release of concrete castings

DESCRIPTION

Ber Mould Release Agent - M is an ideal and efficient material to be applied to the interiors of moulds / shutters to facilitate easy removal of shuttering or mould from hardened concrete.

ADVANTAGES

- Improved release performance compared with oils and creams
- Reduces occurrence of blow holes
- Economical - only a light film required
- Waterproofs plywood and timber moulds preventing the swelling of wood and ensuring proper hydration
- Ensures rust proofing in steel moulds

FUNCTIONS

Ber Mould Release Agent - M is an oil based component of low viscosity which is clear, transparent and free from suspended matter or sediments. It forms a smooth, sliding film at the interface of concrete and mould and ensures quick, clean release of hardened concrete. It produces a uniform, smooth, hard finish which is light in color and does not stain even concretes made of white cement.

USES

- Ber Mould Release Agent - M can be used for all kinds of shuttering material like wood, steel, etc.
- Ber Mould Release Agent - M results in a cleaner concrete after the mould is released.
- Ber Mould Release Agent - M ensures that water from concrete is not lost through absorption by fresh wood used for shuttering.
- Ber Mould Release Agent - M does away with primitive practices of delineating concrete surface from formwork using paper or plastic.

DIRECTION OF USE

Because of low viscosity, Ber Mould Release Agent - M can be applied evenly on the surface in a thin coat using a fine haired brush, but care must be taken to remove any excess quantity. Ber Mould Release Agent - M can be applied by lightweight horticultural sprayers.
Apply before the first casting and between subsequent castings, preferably immediately after stripping and cleaning the mould. When applying to new timber, the first coat may be completely absorbed in which case a second application should be made. The performance of timber moulds will improve progressively as they become impregnated with the release agent.
The application equipment can be washed out with white spirit or paint thinners.

COVERAGE

Coverage varies with the porosity of the surface and method of application. 1 Litre will cover an area of 20 - 40 sq. ft. depending on surface characteristics of the wood. Steel shutters can give maximum coverage up to 60 - 65 sq. ft.

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

SPECIFIC GRAVITY
0.80 to 0.90

STORAGE
The flash point of Ber Mould Release Agent - M is 65 °C and it does not therefore present a fire hazard. Keep it in cool and dark place.

HEALTH AND SAFETY
Ber Mould Release Agent - M is not directly harmful to the skin but excessive contact should be avoided. Avoid contact with eyes.

PACKAGING
50, 100, 210 Litre barrel.

BER PATCH CRETE

Single component polymer modified cementitious repair mortar

DESCRIPTION

Ber Patch Crete is a cementitious, polymer modified repair mortar which provides high bonding properties which is ideal for over head repair applications.

ADVANTAGES

- Excellent adhesion to concrete surfaces
- Ideal for vertical and overhead situations
- High thickness can be built up
- Very low permeability
- Non-shrink
- Excellent resistance to chloride ions, carbon dioxide, etc.
- Easy to use

FUNCTION

Ber Patch Crete is a cementitious, polymer modified repair mortar which forms a workable and cohesive mix on addition of water. It may be applied vertically and overhead situations even in thick layers. Ber Patch Crete binds itself to the old concrete creating a monolithic repaired surface.

USES

- Ber Patch Crete is suitable for repairs, plastering, rendering of gravel nests and concrete restart castings, reconstruction of reinforced concrete, etc.
- Ber Patch Crete is ideal for repair of concrete exposed to hot temperatures.
- Ber Patch Crete application can serve as a surface layer in floors subject to heavy loads or abrasion because of its increased ductility.
- Ber Patch Crete can be used to repair concrete in balcony frontages damaged due to corrosion of reinforcing steel.
- Ber Patch Crete can be used in all works where consistent thickness is required for repairs without the use of forms.

METHOD OF APPLICATION

SURFACE PREPARATION:

The adhesion of Ber Patch Crete is greatly impaired if the surface is not prepared thoroughly. The surface must be cleaned by chiseling or high-pressure water cleansing or brushing. The surface must be dry and free from dust, oil, loose particles and laitance in order to derive maximum benefit out of Ber Patch Crete. Expose fully any corroded steel in the repair area and remove all loose scale and corrosion deposits. Steel should be cleaned to a bright condition.

PRIMING OF REINFORCEMENT BARS:

Apply one coat of Berger Zinc Chromate Primer and allow drying before application of Ber Patch Crete Priming of concrete and masonry. Thoroughly soak the substrate with water prior to applying one coat of Ber Latex SBR and Ber Patch Crete can be applied when the primed surface is tacky.

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

MIXING AND APPLICATION

MIX PROPORTION:

The dry material should be mixed with approximately 5 litres of water per 25kg bags. If the consistency is not sufficient extra water can be added to achieve good workability. Ber Patch Crete shall be poured by providing encasements. Care should be taken so that air bubbles are not trapped, while placing.

Apply the mixed Ber Patch Crete to the prepared substrate with a gloved hand or trowel. Thoroughly compact the mortar on to primed substrate and around the reinforcement.

Additional build up on overhead can be achieved by application of multiple layers. Exposed steel reinforcing bars should be protected to avoid movement during the application process as this can affect mortar compaction and build. The minimum applied final thickness of Ber Patch Crete is 10mm.

CURING:

In fast drying conditions, it may be necessary to supplement this with polythene sheet taped down around the edges. When using in cold climates the finished repair must be protected from freezing.

YIELD/ COVERAGE

FINISHING:

Painting of the restored structure may be carried out after eight days using water based acrylic products but solvent based paint will need longer seasoning times.

STORAGE

Ber Patch Crete will retain its properties for atleast 6 months when kept in the original packing. Storage at low temperature in dry place extends shelf life.

SAFETY

Avoid contact with eyes or sensitive skin. Wash thoroughly with plenty of water if eyes or sensitive skin gets affected.

PACKAGING

Ber Patch Crete is available in 25 kg packs.

BER DEMIX

Two-component, modified epoxy, solvent-free & low-viscosity.

FEATURES & BENEFITS

- Stabilizes cracks in concrete
- Insulates and tamper proofs electrical fittings
- See properties of dry film

USES

A crack injection compound for cracks between 0.10 to 0.05mm in width. May also be used as primer for epoxy mortars and electrical encapsulation.

SURFACE PREPARATION

Concrete should be clean and dry. Surfaces should be sound enough to provide sufficient strength for bonding of injection nipples and surface seal.

BONDING / PRIMING

Self priming.

MIXING

Add the entire contents of the activator can to the base material. Stir for five minutes using a flat paddle.If only a small quantity is required, pre-stir the contents of each container using separate flat paddles. Pour two volumes of base component and one volume of activator into a separate, clean container. Mix together for five minutes using a flat paddle.

COVERAGE

Primer: 1m^2 / 1mm thick
Crack: Estimation of cavity volume is necessary

PROPERTIES OF WET MATERIAL

Toxicity	Cured material is non-toxic
Color	Brown

APPLICATION

Full details are contained in the ‘Crack Injection Data Sheet’. N.B.: epidermix 389 is recommended for use in cracks from 0.10 to 0.05mm. For wider cracks, see epidermix 365.

CLEANING

Berger super brush cleaner before dried/cured.

PROTECTION ON COMPLETION

Ensure no liquid spillage and no movement vibration until cured.

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

TEMPERATURE AND RELATIVE HUMIDITY

See “Properties of wet material” and “Properties during application”.

MODEL SPECIFICATION

Low-viscosity epoxy crack injection compound and primer for epoxy mortars. The crack injection compound shall be epidermix 389, a two component, low viscosity, solvent free epoxy compound applied in accordance with the manufacturers recommendations, Berger Construction Chemicals.

Mixing ratio	2 : 1 by volume
Density	1.12 g/cm^3
Color : Base activator	Light amber liquid, brown liquid
Flash point	+120 °C
Dilution	Do not dilute
Consistency	Very low viscosity
Toxicity	Uncured material is toxic
Shelf life	2 years from date of manufacture
Storage conditions	Under cover in cool conditions
Packaging	500ml, 5l kits
Fire resistance	Flammable

PROPERTIES DURING APPLICATION

Application for injection as a primer	By gun by brush or roller
Pot life @ 25 °C	5 hours - 500ml
Volume solids	100%
Curing time @ 25 °C	Practical cure - 24 hrs Full cure - 7 days
Coverage	Variable – 1l covers 1m^2 to a thickness of 1mm
Application temperature range	10 °C - 45 °C
Equipment clean-up	Berger super brush cleaner
Fire resistance	Flammable

PROPERTIES OF DRY FILM

Maximum service temperature	Dry – 60 °C Wet - 40 °C
Bond strength	Concrete will fail in tensile and shear
Compressive strength	60 MPa

HEALTH & SAFETY

Wet epidermix 389 is toxic and flammable. Always ventilate the working area well during application and drying. Avoid flames in vicinity. Always wear gloves and eye protection when working with the material and avoid excessive inhalation and skin contact.

- If material is splashed in the eye, wash with copious quantities of clean water and seek medical attention.
- Cured epidermix 389 is inert and harmless.
- When transporting by aircraft, ask for a material safety data sheet.

IMPORTANT NOTE

This data sheet is issued as a guide to the use of the product(s) concerned. Whilst Berger Construction Chemicals endeavours to ensure that any advice, recommendation, specification or information is accurate and correct, the company cannot - because Berger has no direct or continuous control over where and how Berger products are applied - accept any liability either directly or indirectly arising from the use of Berger products, whether or not in accordance with any advice, specification, recommendation, or information given by the company.

FURTHER INFORMATION

Where other products are to be used in conjunction with this material, the relevant technical data sheets should be consulted to determine total requirements. Berger Construction Chemicals has a wealth of technical and practical experience built up over years in the company's pursuit of excellence in building and construction technology.

PACKAGING

Epidermix 389 is supplied in 500ml and 5l metal containers.

HANDLING & STORAGE

This product has a shelf life of 24 months if kept in a dry cool place in the original packaging. In more extreme conditions this period might be shortened.

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

BERGER

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INDUSTRIAL ADHESIVES

BERBOND 28

Prepackaged polymer-modified tile adhesive for interior and exterior fixing of ceramic wall and floor tiles, swimming pool tiles and stone wall claddings.

DESCRIPTION

Berbond 28 grey tile adhesive is a cementitious polymer-modified, waterproof tile adhesive and has many advantages over conventional cement based tile adhesive.

ADVANTAGES

- Presence of polymer ensures better bond and adhesive strength
- Ensures total protection against delamination
- No need of chipping and removal of old floor areas
- Great saving in labor, materials and time
- High adhesive bond strength ensures permanent installation
- No wetting of tiles is required before application
- Berbond 28 is waterproof and will not permit seepage of water
- Berbond 28 has a high flexibility and therefore resists cracking
- Good open time for better workability

USES

- Tiles fixing in bathrooms, kitchens, rooms, floors, walls, corridors, and all others interior and exterior parts of building.
- Stone fixing in gardens, farm houses, monuments, etc.
- Fixing of all types of stones, granite tiles and marble slabs.
- Stone, marble and tile fixing in fountains, swimming pools and water retaining structures.
- Tile fixing on wooden and glass substrates.

DIRECTIONS FOR USE

- Remove dust, grease, oil, paint, etc. from floor and wall surfaces as per standard practice before application of Berbond 28.
- If any damages or undulations are present, clear them properly.
- Add one part water to 2.5 parts of Berbond 28 powder by volume. Mix to form a thick paste. Add little more water, if necessary, to obtain workable mix. Leave Berbond 28 mortar to stand for 10 to 15 minutes before using.
- Apply Berbond 28 mortar on the working area (wall or floor) to an average thickness of 3mm.
- Allow 24 hours to set before grouting the joints with Berfil tile grout.
- Fix dry tiles by pressing into place beginning at the bottom in case of walls, and at the center marking, in case of floor and swimming pool. Clean the surface with a wet cloth or sponge after application.

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

TECHNICAL DATA

Supply form	Powder
Color	Grey
Mixing ratio	One part water to 2.5 parts of powder by volume
Workability time	40 minutes

COVERAGE

2kg Berbond 28 will cover 1 square meter (10 sqft) of 3mm bed thickness.

STORAGE LIFE

12 months if stored in supplied bags.

PACKAGING

20kg bag

SAFETY PRECAUTIONS

Avoid contact with eyes or sensitive skin. Wash thoroughly if eyes or skin gets affected.

NOTICE

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BERBOND 29

Prepackaged polymer-modified, waterproof white tile adhesive for fixing marble, granite and stone claddings

DESCRIPTION

Berbond 29 white tile adhesive is a cementitious polymer-modified, waterproof tile adhesive and has many advantages over conventional cement based tile adhesives.

ADVANTAGES

- Presence of polymer ensures better bond and adhesive strength
- Ensures total protection against delamination
- No need of chipping and removal of old floor areas
- Great saving in labor, materials and time
- High adhesive or bond strength ensures permanent installation
- No wetting of tiles is required before application
- Berbond 29 is waterproof and will not permit seepage of water
- Berbond 29 has a high flexibility and therefore resists cracking
- Good open time for better workability

DIRECTIONS FOR USE

- Remove dust, grease, oil, paint, etc. from floor and wall surfaces as per standard practice before application of Berbond 29.
- If any damages or undulations are present, clear them properly.
- Add one part water to 2.5 parts of Berbond 29 powder by volume. Mix to form a thick paste. Add little more water, if necessary, to obtain workable mix. Leave Berbond 29 mortar to stand for 10 to 15 minutes before using.
- Apply Berbond 29 mortar on the working area to an average thickness of 3mm.
- Allow 24 hours to set before grouting the joints with Berfil tile grout.
- Fix dry tiles by pressing into place beginning at the bottom in case of walls, and at the center marking, in case of floor and swimming pool. Clean the surface with a wet cloth or sponge after application.

TECHNICAL DATA

Supply form	Powder
Color	White
Mixing ratio	One part water to 2.5 parts of powder by volume
Workability time	40 minutes

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

COVERAGE
2kg Berbond 29 will cover 1 square meter (10 sqft) of 3mm bed thickness.

STORAGE LIFE
12 months if stored in sealed supplied bags.

PACKAGING
20kg bag

SAFETY PRECAUTIONS
Avoid contact with eyes or sensitive skin. Wash thoroughly if eyes or skin gets affected.

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Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

BERBOND EP

Epoxy bonding agent for structural concrete

DESCRIPTION

Berbond EP is an epoxy resin structural bonding agent used for ensuring monolithic bond between old and new concrete and is highly recommended for structural repair works.

ADVANTAGES

- Ideal for structural repairs
- Monolithic bond
- Capable of transmitting very high stresses
- Excellent water and alkali resistance
- Can be applied on dry as well as damp surfaces
- Can be cured under moist / wet conditions

FUNCTIONS

In epoxy modified systems, cement hydration and epoxy polymerization occur simultaneously. The hardened resin forms thin layers on the cement hydrate and binds the hydrates to form a network in which the epoxy phase interweaves through the cement hydrate phase. The epoxy system thus develops high strength and adhesion and has low permeability, good water resistance and chemical resistance.

USES

- Berbond EP is highly useful for bonding fresh concrete to old concrete that is fully cured.
- Berbond EP can be used to bond sprayed concrete/mortar to old concrete surfaces.
- Berbond EP can be used on horizontal and vertical surfaces as a repair ingredient to corroded or spalled concrete.
- Berbond EP is ideally suitable for:
  - Jacketing applications for strengthening the existing concrete elements like columns, beams, basements, etc.
  - As a bonding agent for concrete repairs using cement plaster / screed and for guniting.
  - As a waterproof joint in sandwich constructions.

METHOD OF APPLICATION

SURFACE PREPARATION:

To obtain good adhesion, it is essential to have a clean and sound substrate. All laitance, oil, grease etc. shall be cleaned either by grinding, wire brushing, chipping, sand blasting or chemical etching.

MIXING AND APPLICATION:

The base and hardener in the specified proportion shall be mixed to get a uniform color. The mixed material shall be applied on the prepared concrete surface with stiff bristled brush. The fresh concrete / cement mortar / guniting shall be carried out on a tack free surface which will be achieved within 30 - 60 minutes of application. The new concrete shall be applied within 4 - 6 hours time. For getting best results, the water-cement ratio of the new concrete shall be as minimum as possible.

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

CURING:
Full curing takes around 5 - 6 days and it is absolutely essential that the repaired surface be cured properly.

COMPATIBILTY
Berbond EP is compatible with all types of concrete, cement based grouts, polymer modified cement systems, etc.

OVERLAY TIME
4 - 6 hours.

POT LIFE
30-60 minutes at 35 °C

COVERAGE
Depending on the surface condition, 1kg Berbond EP will cover 2 - 2.5m^2.

SHELF LIFE
12 months in sealed container if stored below 35 °C.

PACKAGING
Supplied in 1, ½ & 5 Kg ready-to-use units.

BERGER

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GROUTS

BERFIL 63

Germ proof epoxy tile grout

DESCRIPTION

Berfil 63 is a solvent free, 3-component tile grout, based on an epoxy resin, hardener and selected quartz fillers.

ADVANTAGES

- Easily workable consistency
- Trowel and rubber rake application
- Long pot life and after application
- Sufficient time to wash off with warm water
- Rapid final hardening
- High mechanical strength
- Good resistance to chemicals
- Excellent adhesion to various tiles without primer
- Good resistance to chemicals
- Excellent adhesion to various tiles without primer

USES

Berfil 63 is used for waterproof, chemical resistant grouting of joints in ceramic wall and floors, which are subjected to chemical, acids and mechanical attack. Berfil 63 can be used in the following situations:

- Laboratories
- Food industries
- Hospitals / health facilities
- Protection against aggressive water
- Swimming pools with thermal, mineral or salt water
- Storage tanks
- Sewage treatment plants
- Toilet facilities
- Steam and water-jet cleaning industrial washing facilities
- Plant sites

DIRECTIONS FOR USE

SUBSTRATE PREPARATION:

Joints must be dry and free from dust, grease, oil and loosely adhering particles. Any remaining tile adhesive must be removed.

MIXING:

Mix component A prior to batching. Add component A completely to component B and mix for 2 - 3 minutes and then mix component C for 3 - 4 minutes using a slow speed electric stirrer (max. 400 rpm) until a uniform color is achieved.

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This Technical Data Sheet supersedes those previously issued.

APPLICATION
Apply Berfil 63 into the joints using a trowel or pour Berfil 63 on the floor and rake it out in order to fill the joints and smooth off provisionally. Remove surplus material with warm soapy water, using a wet sponge immediately after application. Hardened material has to be removed mechanically.

CLEANING
It is very important to clean hands or any part of the body immediately after application with warm water and soap or thinner.

TECHNICAL DATA

TYPE:
Epoxy resin, curing agent and selected quartz aggregates.

FORM:
Mortar colors available: Grey, White (special colors can be made available on request).

PACKAGING
Premeasured packs of 5kg (A+B+C)

STORAGE CONDITION
In a dry area between 5 ^{o}C and 35 ^{o}C. Protect from direct sunlight.

SHELF LIFE
9 months minimum.

POT LIFE
45 minutes at 20 ^{o}C.

SAFETY PRECAUTIONS
Avoid contact with eyes or sensitive skin. Wash thoroughly if eyes or sensitive skin gets affected.

NOTICE
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Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

BERGROUT EP

Pourable grade non-shrink epoxy grout

DESCRIPTION

Bergrout EP is an epoxy resin grout for structural applications including grouting of machinery foundations heavy duty support for crane and rails, machineries subject to heavy and dynamic loads, etc.

FUNCTIONS

Bergrout EP develops an excellent dimensional stability. Because of its non-shrink characteristics, it remains stable in place without cracking, crumbling or delamination.

ADVANTAGES

- Free flowing
- Non-shrink
- Helps in rapid installation and gains high strength
- Capable of transmitting high stresses
- Capable of withstanding repetitive dynamic loading
- High compressive & flexural and tensile strength

USES

- Bergrout EP is ideally suitable for jacketing applications
- Bergrout EP is recommended for strengthening the existing concrete elements like columns, beams, foundation members, etc. especially in vertical application
- Bergrout EP can be used as a high strength grout for installation and early commissioning of equipments
- Bergrout EP can serve as a structural repair system along with concrete and steel members

METHOD OF APPLICATION

SURFACE PREPARATION:

Foundation or concrete surface

All surfaces must be free from oil, grease, laitance remnants of curing compounds or shuttering oil, water and loosely adherent materials. All dust must be cleaned and pit holes, fixing pockets should be blown clear of dirt.

Steel surface

All steel surfaces should be made clear of rust and dust. They should be shot blasted to make them free from flaky small scales. Cleaned surfaces should be protected using a primer.

FORMWORK

Formwork provided for Bergrout EP should be leak proof so that filling material may remain intact. Bergrout EP is compatible with all types of concrete, cement based grouts, polymer-modified cement system, etc.

POT LIFE

20 to 30 minutes at 35 ^{o}C.

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

CURING

Hardening time	2 Days
Final cure	6 to 7 days

PROPERTIES

The following results are tested in lab condition for grout at 30 at 2 °C.

TECHNICAL DATA

Compressive strength	
1 day	30 (N/mm^2)
3 days	65 (N/mm^2)
7 days flexural strength	90 (N/mm^2)
7 days adhesion to concrete	32 (N/mm^2)
14 days adhesion to steel	4 (N/mm^2)
14 days	16-20 (N/mm^2)

COVERAGE

Yield per kg - 0.50 litre

PACKAGING

5kg packing consisting of Part A - Resin, Part B - Hardener, Part C - Filler

SHELF LIFE

12 months in sealed container under normal conditions.

SAFETY PRECAUTIONS

Avoid contact with eyes or sensitive skin. Wash thoroughly if eyes or sensitive skin gets affected.

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Date of issue: 24 Oct, 2017

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BERGROUT

High strength, non-shrink, free flowing cementitious grout

DESCRIPTION

Bergrout is a high strength non-shrink, pourable / pumpable grout for industrial applications. Premixed, selectively graded components result in a dense, homogenous mix with excellent strength and dimensional stability.

FUNCTIONS

Bergrout develops a slight but controlled expansion beginning at the time of placement, resulting in excellent dimensional stability. It ensures that no major voids are left even in areas that are remotely accessible. Because of its non-shrink characteristic, it remains stable in place without cracking, crumbling or delamination.

AVIALABLE IN TWO GRADES

- **Bergrout 20** (with fine aggregates)
- **Bergrout 40** (with fine and coarse aggregates)

ADVANTAGES

- Excellent fluidity for easy placements
- Accessibility to remote parts of structure
- One-step grout & ready-to-use
- Faster strength development and uniform set & allows earlier loading
- Dimensionally stable, needs no special treatment at opened ends, capping or edges
- No bleeding / segregation
- Densification of material decreases permeability & increases wearability
- Resistant to oils, chemicals, etc.
- No efflorescence
- High early strength minimizes downtime for repairs and maintenance
- Economical because of high yield

USES

- Bergrout can be used in machinery bases, structural columns, pumps and accessory bases, anchor bolts, bearing plates, floor grids, crane tracks, etc.
- Bergrout is an excellent material for structural concrete repairs
- Bergrout can be used for precast structural members and to join dowels, rail posts, sealing bolts and power line installations, etc.
- Bergrout compensates for the normal shrinkage of concrete and mortar, absorbs, and minimizes the effects of vibration on foundation.

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

RECOMMENDED METHOD OF APPLICATION

SURFACE PREPARATION:

All areas to be grouted shall be clean and free of laitance, grease, dirt and contaminants. All loose material shall be removed. In case of repair, the concrete must be hacked back until a sound surface is obtained. All metal components shall be derusted and free of paints or oils. The prepared concrete surface should be saturated before application with clean water. Remove excess water from voids and holes prior to grouting.

FORMING:

For machine and column bases, forming procedure should be followed which allow for rapid and continuous placement of the grout and complete filling of space to be grouted. Support elements should be anchored so that no movement is possible. Removal of formwork should be done only after Bergrout has hardened properly.

MIXING:

The dry grout should be mixed with recommended amount of water - typically 6 - 8 litres per bag of 50kg. The grout shall be added to the water in a container. For flowing grout, water content may be increased slightly. Quantities which can be placed in about 15 - 29 minutes only should be mixed at a time. Use mixing paddle to obtain a consistent mix.

PLACING AND COMPACTING:

The grout should be placed only from one side of the opening to avoid trapping of air. Use chains, rods or tamping devices to compact grout tightly, completely removing air voids. Vibration is acceptable but should not exceed limits so as to cause vibration and bleeding.

RESTRAINT:

Adequate restraint should be maintained on all sides so that the desired shrinkage compensation is obtained. Providing reinforcement will help in case of exposed surfaces.

CURING:

Protection against drying winds and direct sunlight is essential. Use wet Hessian cloth or ponding water. If a damp Hessian is used, curing for at least 7 days is necessary.

PROPERTIES

Supply form	Powder
Unit density	1.50
Specific gravity	2.70
Chloride content	Nil

SHELF LIFE

12 months in tightly sealed bags. Store as cement is stored.

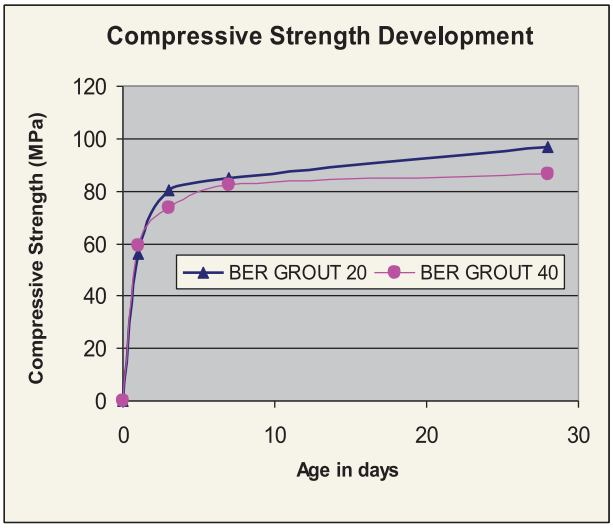
PACKAGING

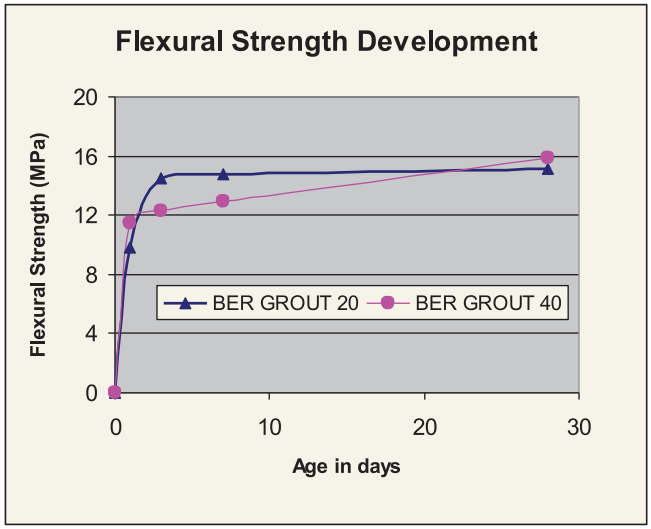
50kg bag

COMPREHENSIVE AND FLEXUAL STRENGTH

Bergrout 20 and Bergrout 40 differ in their maximum size of aggregates. While Bergrout 20 has aggregates of maximum 1mm size, Bergrout 40 has those with 3mm size.

	Age in Days	Compressive Strength (Mpa)	Flexural Strength (Mpa)	Linear Expansion (%)		Yield / Bag (m^3)
				Free	Restrained	
BERGROUT 20	1 3 7 28	56.0 80.4 85.0 97.0	9.8 14.5 14.8 15.1	0.15	0.12	0.27
BERGROUT 40	1 3 7 28	59.1 73.6 82.5 96.3	11.5 12.3 12.9 15.9	0.25	0.16	0.27





Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

BER ANCHORSET

Polyester Resin Anchor Grouts

DESCRIPTION

Ber Anchorset grouts are mix and place grouts used for high strength anchoring of bolts and bars into concrete, masonry or rocks.

ADVANTAGES

- Rapid setting and strength achievement
- No expansion & no shrinkage
- Resistant to corrosion
- Resistant to vibration
- Shorter depth and smaller holes
- Reduced drilling costs

FUNCTION

The polyester resin reacts with hardener to form a quick setting, non-expansive system having extremely high strength, abrasion resistance and chemical resistance.

USES

- Ber Anchorset is ideal for high speed, high strength anchoring, holding down bolts for machinery, crane rails, railway tracks connected to concrete sleepers, etc.
- Ber Anchorset can be used for rock bed anchors and fixing of marine equipment since it can be used for underwater operations.
- Ber Anchorset facilitates permanent installation of starter bars, base plates, tower anchors, foundation bolts, etc.
- Ber Anchorset aids in protecting anchored bolts/rods in wet conditions, as in underwater

METHOD OF APPLICATION

HOLE PREPARATION:

The holes must be dust free and rough sided in order to realize maximum benefit out of Ber Anchorset. Rotary drilling with flushing by air or water is recommended. In case of holes drilled on parallel sides, they should be rough to provide sufficient anchorage. When holes are diamond drilled, they have to be under-reamed.

BAR PREPARATION:

All bars or bolts should be degreased and rust flakes are to be removed before use.

MIXING:

Mixing of one pack should be done in a single operation, mechanically. Placing should be done within the gel time, which decreases with increase in temperature. Ensure a smooth and even consistency of the grout before placing.

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

PROPERTIES

Supply form	Part A - Liquid
	Part B - Powder
Strength	> 75 MPa
Hardening time	20 minutes

YIELD

Packing	Yield / bag	
	in litres	In m^3
1 kg	0.6 ltr	0.0006 m^3
5 kg	3 ltr	0.0030 m^3

Please consult Berdex technical cell for further details.

STORAGE

Ber Anchorset will retain its properties for at least 5 months when kept in the original packing.

SAFETY

Avoid contact with skin for prolonged period. Any contact with eye, wash immediately with plenty of water.

PACKAGING

1 kg

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WATERPROOFINGS

BER ACRYL

Decorative and water-repellent coating for exposed surfaces

DESCRIPTION

Ber Acryl is a high grade, solvent type, single component, methacrylate based protective coating for concrete and stucco against environmental pollution.

FUNCTIONS

Ber Acryl contains highly volatile solvents, having excellent wetting and penetration properties and adheres well to both absorbing substrates (concretes, stucco and masonry) and non-absorbing ones (primed metals, plastics). The dried film is dirt-repellent, and resistant to ageing. By virtue of their exceptionally high resistance to Co^2 diffusion, the substrates are effectively protected against the harmful effects of carbon dioxide and sulphur dioxide. The ability of the substrate to breathe is hardly affected by Ber Acryl.

ADVANTAGES

- Resistant to carbon dioxide
- Resistant to UV radiations
- Resistant to extreme rainfall & humidity and heat
- Resistant to freezing and thawing
- Excellent dirt repelling characteristics
- Decorative coating - gives a glossy finish, also available in mat finish

USES

- Ber Acryl can be employed as protective coating for structural elements such as facades, walls, retaining walls, bridges, tunnel walls etc., against aggressive media.
- Ber Acryl can be used to coat concrete, natural stone, fair faced masonry and stuccos.
- Ber Acryl can be used to give glossy decorative finishes to exposed surfaces.

METHOD OF USE

SURFACE PREPARATION:

All surfaces where Ber Acryl is to be applied should be dry and free from contamination such as oil, grease, laitance, algae etc. Remnants of mould release agent or curing compound have to be removed, if present. Trials may be needed if Beracryl is to be Coated over an existing sound coating. The surface should be dry before coating with Beracryl. If Ber Acryl is applied on a wet surface, moisture gets trapped under the coating and can form blisters when surface temperature increases. To have a continuous base, the unevenness in concrete surface may have to be filled, so that the Ber Acryl coating is unbroken. Filling of blow holes or pitted areas can be done with Ber Microseal, and cured for 48 - 72 hours.

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

APPLICATION

Application can be done with a brush or rollers or spray gun. When spraying is used, Ber Acryl is to be thinned down. Consult our technical service team in such cases.
Mask glass surfaces, joint sealants and bitumen coated areas before application. The material should be stirred thoroughly before use.
Ber Acryl should be applied for minimum of 2 coats on the surface. Porous substrates may require one more coat. Ber Acryl dries as the solvent evaporates. Hence it is not recommended to apply Ber Acryl in full and hot sunshine as well as during strong winds. The 2nd coat may be applied after 2 hours of 1st coat. At 20 °C, Beracryl is tack-free after 1 hour.
Cleaning: Brushes / Rollers/Spray Guns should be cleaned immediately after use.

PROPERTIES

Supply form	Liquid
Color	Transparent / Terracotta / White special shades, can also be prepared on demand
Chloride content	Nil

SHELF LIFE

If stored in dry, unopened containers, the shelf life is 12 months. Shelf life reduces with increase in temperature and humidity.

COVERAGE

For 2 coats of Ber Acryl the coverage is 2.5 m^2 per litre. Depending on the surface, method of application and wastage can slightly vary.

PACKAGING

1Litre in metal containers. Bulk packing is also available on request.

PRECAUTIONS

Ber Acryl contains combustible solvents (flash point > 21 °C). Apply only in the presence of good ventilation. Keep away from sources of ignition.
Ber Acryl should not come into contact with skin and eyes. Ensure adequate ventilation as well as the use of protective gear. Use suitable respiratory protective equipment if working in confined areas.

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This Technical Data Sheet supersedes those previously issued.

BER FLEX

Single component acrylic co-polymer liquid waterproofing membrane

FUNCTIONS

Ber Flex is a single component acrylic co-polymer based waterproof membrane coating having excellent flexibility and weatherproofing characteristics. Due to its excellent adhesion and thixotropic nature it is an ideal material for vertical and horizontal applications.

ADVANTAGES

- Weatherproof protective coating
- Excellent thermal insulation
- Can be used on a variety of substrates such as concrete, asbestos, cement, zinc and GI sheets, timbre, lightweight concrete pu foam
- High elasticity and tensile strength of the cured membrane enables it to accommodate roof movement
- Easy to use, single component and bio-friendly material
- Resistant to ultra violet radiation
- Anti-carbonation and chemical resistant coating

USES

- Ber Flex can be used for roof slabs, terraces, balconies, sunshades, parapet walls, etc.
- Ber Flex is ideally suited for application on structures having complicated geometry like domes, arches, shells, folded plates, parboloids, and corrugated sheets.
- Ber Flex is suitable for horizontal and vertical surfaces.
- Ber Flex can be used for waterproofing of new structures as well as old surfaces.
- Ber Flex can be used for negative side waterproofing.

METHOD OF APPLICATION

SURFACE PREPARATION:

The surface has to be cleaned thoroughly so that all dirt, oil, laitance, dust, etc. is removed. In the case of metal surfaces, rust and other contaminated and loose particles shall be removed. All cracks shall be treated properly before the application of Ber Flex. Ber Flex primer coat shall be applied by diluting 1 Kg with 2 litres of water by means of sprayer, brush or roller.

APPLICATION:

First coat of Ber Flex shall be applied over the primed surface once the surface is dry. It is recommended to apply the second coat after first coat is fully cured. The glass fiber reinforcement, if required, shall be placed after the application of the first coat and 10-15% for second coat for workability and coverage.

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This Technical Data Sheet supersedes those previously issued.

CHARACTERISTICS

Tensile strength	41.5 kg/cm²
Elongation	550%
Shore hardness	73
Tear strength	22.6
Adhesion to concrete	13.03 kg/cm²
Abrasion resistance	Abrasion wear (Wear index 135)
Service temperature	20 - 110 °C
Specific gravity	1.28 @ 23 °C
Recovery	89.2%
Solid content	60% min.
Flash point	Nil

COLOR

Ber Flex is available in white color. Other colors can be made available on request.

COVERAGE

1.5 kg / m² for 2 coats (DFT 1mm)

CURING TIME

Touch dry	1 hour
Completely dry	4 - 6 hours

SHELF LIFE

Up to one year in closed container if stored properly.

PACKAGING

15 kg Bucket

BER HYDROSEAL DPM

Surface Damp Proof

DESCRIPTION

A solvent and water free, epoxy resin, liquid applied surface damp proof membrane. Designed to withstand moisture vapour from substrates.

ADVANTAGES

- Reduces project timescale, allows early installation of floor and wall finishes
- Impervious to water
- Excellent adhesion to concretes and screeds
- Tolerates up to 100% relative humidity in the concrete or screed substrate
- Easy to apply
- Solvent free & low odor
- Excellent gap filling
- Contrasting color coats allows for visual control of the Hydroseal DPM membrane uniformity in laying
- The Hydroseal DPM system can be used from either heavy duty industrial or medium to light duty commercial applications
- With DPM, Isocrete 1500 high strength (30N/mm^2) leveling screed and Berger resin finish

USES

Allows immediate installation of moisture sensitive floor finishes on to concrete and cementious screeds which have a moisture content of up to 85% relative humidity.

DPM TWO COAT

Two coat moisture suppressant, to be supplied and laid on a sound shot blast and vacuum cleaner in situ concrete slab (not exceeding 85% relative humidity).

IMPORTANT NOTE

DPM is not designated to resist hydrostatic water pressure, in such circumstances external tanking or pressure relief, e.g. direct drainage must be provided to the structure.

SPEED OF CURE

	10 °C	20 °C	30 °C
Pot life	60 mins	35 mins	20 mins
Light traffic	24 hrs	18 hrs	12 hrs
Full cure	72 hrs	48 hrs	36 hrs

SUBSTRATE REQUIREMENT

Concrete or Screed Substrate should be a minimum of 25N/mm², free from laitance, dust & other contamination. The substrate should be surface dry before the application of DPM.

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This Technical Data Sheet supersedes those previously issued.

OVERLAYING

Resin floor and walls can be laid directly on to DPM. If there is no sand blind to the DPM, then the resin floor and wall finish should be applied within 24 hrs of application of the DPM.
For direct bonding to DPM, the adhesive manufacturer should be consulted to determine if a sanded or unsanded finish is required.

LIFE EXPECTANCY

DPM is in practice a permanent membrane to protect final finishes from moisture related damage for the life of floor and walls, subject to there is neither structural movement nor failure of the concrete slab, no severe thermal cycling nor exposure to temperature above 50 °C.

ENVIRONMENTAL CONSIDERATION

The finished system is assessed as non-hazardous to health and the environment.
Controlled moisture a vapor permeability provided by the DPM enhances the service life of the floor system and walls, reducing the need for repairs and maintenance.

FURTHER INFORMATION

To ensure you are specifying a fit for the purpose flooring for your project please consult our technical advisor.

BASE:HARDENER RATIO

3:1

COLOR

DPM 2 Coat: Yellow

COVERAGE CAPACITY

30~35 sq.ft. per kg

BERLASTIC

Elastomeric waterproof coating

DESCRIPTION

Berlastic is a hydrate-type flexible waterproofing material based on special synthetic resin dispersion and a blend of selected cements mixed with well-graded sand and high performance polymers.

FUNCTIONS

Berlastic is a proven and fool-proof waterproofing system wherein the ingress of moisture into the structural member is prevented by flexible membrane formed as a result of resin modified cement hydration and polymer film formation. The highly elastic nature of the membranes takes care of the stresses set up by temperature and resists crack formation. The high content of the dispersed synthetic resin particles results in unheard of flexibility for a cement-based material and the ability to over bridge hairline cracks as fine as 0.2mm.

ADVANTAGES

- Excellent water resistance
- Considerable flexibility and elongation
- Resistant to abrasion
- Excellent adhesion to concrete, stone, brick, wood, steel, copper, etc.
- Over bridges hairline cracks
- Resistant to freezing and thawing
- Ideally suited for new buildings as well as repair of old ones

USES

- Berlastic can be used for coating of floors (industrial plants, parking areas, garages and ramps) protection and repairs of balconies, terraces and hunching concrete roads and bridges.
- Berlastic can be used for waterproofing of new and old buildings (internal and external)
- Berlastic can be used to waterproof tanks, containers and water reservoirs, basements, bathrooms, roofs etc.

RECOMMENDED METHOD OF APPLICATION

SURFACE PREPARATION:

The surface must be clean and sound and free from dust, loose particles, cement laitance, grease, rust and other contaminants. Insufficiently covered reinforcement has to be treated with a rust protector. Rough areas and honeycombs must be levelled with polymer modified mortar. Absorbent surfaces (concrete, renderings, plaster) have to be pre-wetted with clean water. During application, the surface has to be moist but free of puddles. A minimum temperature of +5 °C is essential.

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This Technical Data Sheet supersedes those previously issued.

MIXING:

The Berlastic Compound A and clean water in the proportion of 1:1 is to be poured into the bucket and the Compound B added slowly, and stirred well to obtain a smooth lump free consistent slurry. If necessary mechanical stirrers may be used. Mix only in small batches of one unit at a time which can be used within the pot life. Mixing of the two components results in a plastic, thixotropic and easily applicable compound, even to vertical surfaces.

APPLICATION:

Apply the well-mixed Berlastic slurry with brush or broom onto the prepared surface in minimum two layers. used on smooth, screed floors, application can be done also by notched trowel and then level with a spike roller. Do not apply more than 1.5mm per layer. The next layer can be applied as soon as the proceeding one is dry enough to be wiped, i.e. as soon as it can be walked on, but it is recommended to wait overnight. Berlastic can also be sprayed. The total thickness of 2 coats of Berlastic would be 1.5 to 2mm. The tools should be cleaned with water before Berlastic hardens because the cured material is very hard to remove even by machine.

CURING:

Homogeneous hardening and high waterproofing are assured if Berlastic does not dry too quickly, therefore it should be protected after application against heavy wind and intense sunshine.

HARDENING TIME

Curing and hardening depend on the temperature. At 30 °C, Berlastic floor is walk able after about 8 hours and resistant to mechanical stress after 3 days. Full hardening is reached after about 7 days. After this time, the coating resists permanent water pressure.

PROPERTIES

Supply form	
Compound A	Milky white liquid
Compound B	White / grey powder
Mixing proportion	1 part of Compound A
	1 part water
	5 parts Compound B
Toxicity	Non-toxic
Resistance to Ultra violet rays	Good
Chloride content	Nil

POT LIFE

The working time of Berlastic depends on the temperature. at 30 °C it is about 30 minutes.

COVERAGE

24kg unit	Approx. 30 m^2 per coat on normal surface. 2865.60

PACKAGING

24kg unit	4kg Compound A and 20kg Compound B

SHELF LIFE

Keep frost-free, cool and dry. Berlastic can be stored for 12 months in tightly closed original packing. Once frozen, component A becomes unusable.

SAFETY PRECAUTIONS

Avoid contact with eyes or sensitive skin. Wash thoroughly if eyes or sensitive skin gets affected.

NOTICE

Berger Paints Pakistan Ltd. is a manufacturer and supplier of materials and cannot therefore act in an engineering capacity in giving of advice or diagnosis of structural or related problems. Thus it cannot accept any liability arising either directly or indirectly from the use of its products whether or not in accordance with any advice recommendation or information, written or otherwise, supplied by it. The above information is based on the present available knowledge and may be changed / amended with the new developments.

BER MEMBRANE

Ber Membrane is a high-strength polyester reinforced membrane for use with BER waterproofing systems.

FEATURES & BENEFITS

- High strength
- Use with most waterproofing systems allowing for thicker application rates
- Will not shrink or perish
- Various sizes available
- Bridges cracks and gaps

USES:

Suitable for use with Ber waterproofing and flashing systems.

SURFACE PREPARATION

Surface must be clean and free from dust and grease. Must be used in accordance with the waterproofing or flashing specification.

COVERAGE

Depending on area that needs to be covered but will not shrink: 1 m^2 = 1 m^2

APPLICATION

Application must be done in accordance with the waterproofing or flashing specification.

PROTECTION ON COMPLETIONS

Ber Membrane will not perish, but must be over coated as specified by the waterproofing system.

TYPICAL PHYSICAL PROPERTIE

Weight:	90-100 g/m^2
Tensile strength (DIN 53857):	Machine direction: 180-250 N/5 cm across machine direction: 165-215
Color:	White
Elongation at break (DIN 53857):	Machine direction: 30-75% across machine direction: 30-75%
Thickness:	0,8 - 1,2 mm

MODEL SPECIFICATION

Polyester reinforcing membrane for Ber waterproofing and flashing systems. (Not to be used with cementitious products).
The membrane will be Ber Membrane, a non-woven needle-punched, polyester membrane applied in accordance with the recommendations of Ber Construction Chemicals.

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

PACKAGING

Ber Membrane is supplied in a variety of sizes:

- 1 m x 1 m
- 10 m x 1 m
- 100 mm x 10 m
- 100 mm x 20 m
- 200 mm x 2,5 m
- 200 mm x 10 m
- 200 mm x 12,5 m
- 200 mm x 20 m
- 250 mm x 10 m
- 250 mm x 20 m
- 300 mm x 20 m
- 500 mm x 10 m

HANDLING & STORAGE

This product has a shelf life of 24 months if kept in a dry cool place in the original packaging. In more extreme conditions this period might be shortened.

HEALTH & SAFETY

Ber Membrane is inert and harmless.

IMPORTANT NOTE

This data sheet is issued as a guide to the use of the product(s) concerned. Whilst Ber Construction Chemicals endeavours to ensure that any advice, recommendation, specification or information is accurate and correct, the company cannot - because Ber has no direct or continuous control over where and how Ber products are applied - accept any liability either directly or indirectly arising from the use of Ber products, whether or not in accordance with any advice, specification, recommendation, or information given by the company.

FURTHER INFORMATION

Where other products are to be used in conjunction with this material, the relevant technical data sheets should be consulted to determine total requirements. Ber Construction Chemicals has a wealth of technical and practical experience built up over years in the company's pursuit of excellence in building and construction technology.

Date of issue: 24 Oct, 2017

This Technical Data Sheet supersedes those previously issued.

BER ROOF - PU

Polyurethane based single component waterproofing system

DESCRIPTION

Ber Roof - PU is a one component Polyurethane waterproofing and heat insulating membrane having excellent adhesion to the substrate and results in a fool proof water resistant system.

ADVANTAGES

- Excellent resistance to water
- Very good flexibility - bridges hairline cracks
- Excellent adhesion to the base
- Extremely resistant to thermal stresses
- Provides a shining, attractive reflective surface
- Resistant to abrasion
- Good chemical resistance
- Easy to use - one component system

FUNCTION:

Ber Roof - PU forms a defect free surfaces coating with improved adhesion capacity over the exposed surface, which resists the entry of water and water vapour along with gases to the concrete. The shiny surface reflects heat and thus aid in a better thermal ambience inside the structure.

USES

- Ber Roof - PU can be used for coating of exposed surfaces against penetration and seepage of water as well as for heat insulation.
- Ber Roof - PU is an ideal coating for repaired surfaces to ensure that it remain completely water proof, as well as it accommodates differential thermal movements without cracking.
- Ber Roof - PU is having recommended for protection of balconies and terraces, especially in the event of having terrace gardens.
- Ber Roof - PU can be used for waterproof coating of tanks, containers, bathrooms, basements, pipelines

RECOMMENDED METHOD OF APPLICATION

SURFACE PREPARATION:

The surface must be clean and sound and free of dust, loose particles, cement laitance, grease, rust and other contaminants. Insufficiently covered reinforcement has to be treated with a rust protectant. Rough areas and honeycombs must be levelled with polymer modified mortar.
It is absolutely essential that the surface must be thoroughly dry before the application of Ber Roof - PU. Patches where water is trapped inside may lead to blisters and eventual rupture of the surface coat.

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This Technical Data Sheet supersedes those previously issued.

APPLICATION:

Application can be done using a brush / broom on to the dry prepared surfaces. Second coat can be applied after about 12 hours of applying 1st coat. The thickness of a single coat will be approximately 500 microns.
Drying and curing time: Ber Roof - PU takes around 90 minutes to attain touch dry conditions and 12 hours to be full dry. Complete curing requires around 72 hours.
Homogenous hardening and high degree of waterproofness are assured if Ber Roof - PU does not dry too quickly. Hence it should be protected after application against heavy wind and intense sunshine.

PROPERTIES

Supply form	Liquid
Color of applied Surface	Aluminium / Silver /Grey / White
Chloride content	Nil

COVERAGE

2.0 m^2 to 3.0 m^2 per litre per coat. Slight variations may occur depending on the surface conditions.

POTLIFE:

Minimum 2 hours at 30 °C.

SHELF LIFE

6 months in a sealed container, should be kept free from moisture.

PACKAGING

5 kg, 10 kg and 20 kg packing.

BERSEALING SLURRY

Prepackaged, single component, polymer-modified cementitious slurry coating

Prepackaged polymer-modified cementitious, flexible, protective, waterproof, weather, chemical and corrosion resistant, slurry coating for concrete, masonry, brick structures and pipes / poles of various nature. A high grade replacement of bituminous coatings.

DESCRIPTION

Bersealing Slurry is all purpose, one component with very high quality, polymer-modified cementitious protective sealing slurry or slurry coating for concrete, brick and masonry structures to improve their life or durability.

COMPOSITION

Bersealing Slurry contains specially selected high performance hydraulic cement, fillers, fine aggregates, a combination of synthetic polymers including film - forming redispersible polymer powder, anti-foaming, water repelling and viscosity modifying agents.

ADVANTAGES

- Bersealing Slurry has excellent waterproofing capability and acts as a strong barrier against corrosion, chemical (including sulphate and chlorides) attack and weathering.
- Bersealing Slurry protects the concrete, masonry or brick structures even exposed to periodic or long term wetting (surface water, seepage water), low hydrostatic pressure (soil dampness) or in combination with appropriate engineering even high hydrostatic pressure.
- Bersealing Slurry has excellent resistance to water, even if exposed permanently.
- Bersealing Slurry has excellent long term weathering resistance, good scratch resistance, good load carrying capacity and much higher water-vapour permeability.
- Bersealing Slurry provides fully bond, monolithic surface without joints, and can be easily applied.
- Bersealing Slurry can be used on damp and wet mineral surfaces.
- Bersealing Slurry has the capability to bridge small cracks upto about 1mm in the substrate.
- Highly flexible, Bersealing Slurry can be used on substances that are still subject to shrinkage, vibration, movements, stress, and crack formation.
- Due to its high flexibility, Bersealing Slurry can be used on substrates which are difficult to coat such as wood, steel, aerated lightweight blocks and gypsum boards.
- Bersealing Slurry has a high diffusion resistance against chlorides, sulphates, carbon dioxide and other aggressive substrates.

USES

- Sealing and waterproofing of bricks, concrete and masonry structures (both interior and exterior surfaces)
- Waterproofing of water tanks, terraces, balconies, bathrooms, basements and water retaining structures, jetties, bridge decks, etc.
- Water seepage / leakage stopper from pipes (concrete, asbestos, metal, PVC etc.) and joints.
- Strong barrier against corrosion, erosion, chemical and salt attack including sea chloride and soil sulphates, etc.
- Waterproofing of foundations, plinth beams, and damp proof courses.
- As primer for paint applications or as waterproofing layer to be tiled over.

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This Technical Data Sheet supersedes those previously issued.

- Protection against abrasion due to atmospheric attacks.
- Waterproof lining for water retaining structures, water courses, minors, canals, etc.
- Coating for protection against sea water, soil sulphates and sewage effluent discharge channels & chambers.
- Sealing and coating of tie bar holes to ensure water tightness.
- Waterproof coating for roofs and walls.
- Dust stopper for concrete blocks and bricks.

DIRECTIONS FOR USE

- Clean the surface completely removing loose material. Ensure that the surface is free from oil, grease, chemicals or any other foreign materials.
- Damp the surface.
- Take required quantity of Bersealing Slurry in a container.
- Add water gradually and mix gently, till such time the paste has brushable consistency. Approximately 600 - 700ml/kg water is suitable but the requirement will change with ambient temperature.
- Apply paste by brush on damp surface.
- Apply two coats by ordinary paint brush, broom or spray (one coat being perpendicular to another).
- Apply 2nd coat before drying of 1st coat i.e. the 1st coat should be tacky at the time of receiving 2nd coat.
- Avoid coating operations during high temperature and windy conditions. Suitable applications may be done at temperatures ranging from 5 °C to 30 °C.

FORM

Powder

COLOR

Cement grey, white and pigmented if desired.

COVERAGE:

40 sq. ft. per kg in 2 coats

CLEANING

Application and mixing tools should be cleaned with water while material is still fresh. Hardened material can only be removed by appropriate solvents / mechanically.

POT LIFE (23 °C)

Approx. 30 - 50 minutes.

STORAGE

Store in cool and dry conditions.

SHELF LIFE

24 months in sealed container.

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This Technical Data Sheet supersedes those previously issued.

PACKAGING:

1kg, 5kg (in plastic bags) and 25kg (in polythene lined paper bags)

SAFETY PRECAUTIONS

Avoid contact with eyes or sensitive skin. Wash thoroughly if eyes or skin gets affected.

NOTICE

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