TECHNICAL DATA SHEET

GeoKrete®

TYPICAL PERFORMANCE CHARACTERISTICS*

IDENTIFICATION CRITERIA

- **DIN EN 1015-6 – Bulk Density**
  appr. 2.250 kg/m³
- **DIN EN 12190 – Dry Bulk Density**
  appr. 2.250 kg/m³
  air void content appr. 3.5%
- **DIN EN 133395-1 – Flow Spread**
  appr. 135 mm
- **DIN EN 12192-1 – Maximum Particle Size**
  <4mm

PERFORMANCE CRITERIA

- **DIN EN 196-1 – Compressive Strength – 7 Day**
  ≥25 MPa (Class B2)
- **DIN EN 196-1 – Compressive Strength – 28 Day**
  ≥45 MPa (Class B2)
- **DIN EN 196-1 – Flexural Strength – 28 Day**
  ≥6 MPa (Class B2)
- **DIN EN 295-3 – Abrasion Resistance**
  Class B2 ≤ 1 mm
- **DIN EN 1015-17 – Chloride Ion Content**
  ≤0.05% (Class B2)
- **DIN EN 1766 – Adhesion on concrete**
  ≥2 N/mm² (Class B2)
- **DIN EN 13295 – Resistance to Carbonation**
  < 4mm
- **DIN EN 13412 – Module of Elasticity**
  ≥ 20 GPa (Class B2)
- **DIN EN 13687-1 – Freeze Thaw**
  ≥ 2,0 MPa (Class B2)
- **DIN 13687-2 – Heavy Rain**
  ≥ 2,0 MPa (Class B2)
- **DIN EN 12390-8 – Depth of Water Penetration**
  <65% @ thinnest point

RESISTANCE TO CHEMICAL ATTACK

- **DIN 19573-A – XWW4 Relative Residual Comp. Str. pH 0**
  >55%
- **DIN 19573-A – XWW4 Relative Residual Comp. Str. pH 1**
  >75%
- **DIN 19573-A – XWW4 Corrosion Depth pH 0**
  <5,2 mm
- **DIN 19573-A – XWW4 Corrosion Depth pH 1**
  <2,7 mm
- **DIN 19573-C – Sulphate Resistance**
  ≤ 0,8 mm/m
- **DIN EN 12190 Comp. Str. @ Point of 1st Water Load – 1 Day**
  1 day ≥10 MPa
- **DIN EN 12190 – Comp. Str. @ Point of 1st Water Load – 2 Day**
  2 day ≥20 MPa
- **DIN EN 12190 – Flex Str. @ Point of 1st Water Load – 1 Day**
  1 day ≥2.5 MPa
- **DIN EN 12190 – Flex Str. @ Point of 1st Water Load – 2 Day**
  2 day ≥3.5 MPa

* The values stated in inch-pound units are to be regarded as the standard. The values given in International System are for information only.

QUADEX® A VORTEX COMPANY REPAIR MATERIALS

wrc approved PT/504/1222

Fully Structural and Corrosion Resistant Geopolymer Mortar

DESCRIPTION

GeoKrete® geopolymer is formulated to provide corrosion resistant protection in a high hydrogen sulfide environment, restore structural integrity and eliminate the infiltration of groundwater in deteriorated structures. GeoKrete is a factory blended, one-component (just add water), eco-friendly, micro-fiber reinforced geopolymer mortar synthesized from reactive SiO_2 and Al_2O_3 from industrial byproducts, enhanced with monocrystalline quartz aggregate. The GeoKrete geopolymer reaction mechanism is alkali-activated polycondensation which yields superior physical properties and chemical resistance. It can be applied in one pass up to several inches thick on horizontal or vertical surfaces by low pressure spraying or spin cast application process.

RECOMMENDED FOR

Structural restoration of large diameter pipes, culverts and tunnels, including raw, storm and wastewater, consisting of metal, concrete, stone, masonry and others. Other structures such as manholes, wet-wells, and treatment plant structures also benefit from the superior strength and corrosion resistance properties of this advanced geopolymer material.

FEATURES AND BENEFITS

- **Quality controlled, one-component blend for uniform results.**
- **High early and ultimate compressive, flexural and bond strengths.**
- **Resistant to acid attack in wastewater streams with pH as low as 0 (DIN 19573-A Pass) and temperature exceeding 100°C | 212°F for industrial effluent.**
- **Extremely low permeability**

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WARRANTY

Quadex, LLC warrants its products to be free of defects in material and workmanship. Unless superseded by project specifications and terms agreed upon in writing between installer and Quadex prior to bid, if within one year from purchase, any Quadex, LLC product is proven defective, the company will replace said product or refund its purchase price at its sole discretion. The company's obligation shall be limited solely to such replacement or refund. There are no other warranties by Quadex, LLC, expressed or implied. There is no warranty if Quadex products are used contrary to Quadex, LLC's written directions.

PROCEDURE

Prepare surface to be patched by removing unsound concrete, dirt, dust, oil and other debris using high pressure (241.3 bar | 3,500 PSI) water blasting. Stop active infiltration. Then rinse with potable water to remove all remaining dirt, sand and loose debris. This will provide a clean, damp surface to allow for a good bond.

Use approximately 1.53 to 1.87 | 0.40 to 0.49 gallons liters of potable water per 20 kg | 44.09 lb. bag of GeoKrete geopolymer. For 450 kg. | 992 lb. supersack use approximately 30.3 to 36 liters | 8.0 to 9.5 gallons of potable water. First add water to mixer, start the mixer and add GeoKrete® geopolymer until mortar is completely mixed. Once all geopolymer material and water has been added to mixer, it needs to mix for approximately five (5) minutes prior to being transferred into the material hopper. Once fully mixed, additional water may be added, as approved by Quadex, should it be necessary for proper consistency.

Apply GeoKrete geopolymer by low pressure spraying or the spin cast application process on horizontal or vertical surfaces to a monolithic minimum thickness of 12.7 mm | 1/2-inch for a protective layer to new or non-corroded infrastructure and 25.4 mm | 1.0-inch for structural restoration of existing infrastructure.

PACKAGING

GeoKrete geopolymer is supplied in 20 kg. | 44.09 lb. poly-lined bags or 450 kg. | 992 lb. supersacks.

YIELD

One 20 kg | 44.09 lb. bag of Quadex® GeoKrete® geopolymer mortar yields approximately 0.0093 m^3 | 0.33 ft^3 and will cover 0.37 m^2 | 3.97 ft^2 at a 25.4 mm | 1.0-inch thickness.

CURING

Cure in accordance with manufacturer's recommendations.

PRECAUTIONS

Avoid eye contact or prolonged contact with skin. Wash thoroughly after use. Persons using Quadex GeoKrete geopolymer should wear necessary PPE consisting at minimum of eye protection, dusk mask and rubber gloves. Read all product labels and technical literature prior to use.