TECHNICAL DATA SHEET

Quad-Flow

TYPICAL PERFORMANCE CHARACTERISTICS

Identification Criteria

- **Fresh mortar - bulk density**
  2247 kg/m³ ; air void content = 5,2%
  DIN EN 1015-6
- **Hardened mortar - bulk density**
  2285 kg/m³ (28 day)
  DIN EN 1015-10
- **Consistency 5 mins. after end of mixing**
  > 550 mm
  DIN EN 13395-2 (Flow-test channel)
- **Maximum particle size**
  ≤ 4 mm
  Test as per DIN EN 1015-1
- **Processability at wmin**
  ≥ 550
  DIN EN 13395-2 (Flow-test channel)
- **Processability at time**
  ≤ 100 mm
  DIN EN 13395-2 (Flow-test channel)
- **De-mixing at wmax**
  no bleeding

Performance Criteria

- **Compressive strength**
  ≥ 50 MPa (28 day)
  DIN EN 196-1
  ≥ 25 MPa (1day)
  DIN EN 196-1
- **Flexural strength**
  7 MPa (28 day)
  DIN EN 196-1
- **Sedimentation stability**
  Stabile (passed)
  DAfStb guideline SVB
- **Resistance to freeze/ thaw cycling**
  1500 g/m² mean value after 28 cycles
  BAW technical sheet, CDF test
- **Expansion**
  >0.1%
  DIN EN 445:2008-01 Vertical Tube
- **Shrinkage**
  ≤ 1.5% (εs,m.91)
  ≤ 2.0% (εs,i.91)
  DAfStb Cast Concrete and Grout
- **Sulphate resistance**
  ≤ 0.8 mm/m
  DIN EN 19573 Appendix C
- **Resistance to chemical attack**
  ≤ 1.05 mm (dt,ph4)
  XWW3

Invert Rehabilitation Mortar

DESCRIPTION

Quad-Flow is designed to provide high strength, quick setting invert rehabilitation mortar to work in unison with the Quadex family of repair products to form an abrasion-resistant repair while increasing the structural integrity of deteriorated pipe and culvert inverts. Quad-Flow has been developed to provide a flowable repair material, capable of being pumped into a host pipe to fill voids and repair damaged inverts with a quick setting, high strength mortar, reforming and reshaping damaged or missing inverts. The quick setting characteristics of the material allow crews to continue their work rehabilitating the host infrastructure mere hours after introduction of Quad-Flow.

RECOMMENDED FOR

Restoring storm and sanitary sewer culvert inverts:

- **As stand along repair method**
- **A part of repair prior to applying a Quadex cementitious or polymeric lining solution**

FEATURES AND BENEFITS

- **Quality controlled, one-component blend for uniform results.**
- **High strength, abrasion and corrosion resistant material.**
- **Fast initial set times allowing further repair activities to follow immediately behind invert rehabilitation.**

CURING

Cure in accordance with manufacturer's recommendations.

PRECAUTIONS

Avoid eye contact or prolonged contact with skin. Wash thoroughly after use. Persons using Quad-Flow should wear necessary eye protection, dusk mask and rubber gloves. Read all product labels and technical literature.

QUADEX® A VORTEX COMPANY REPAIR MATERIALS

Distributed By MAXLINER®

VORTEX

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 void to be filled by removing unsound concrete, dirt, dust, oil and other debris using high pressure (3,500 psi | 241.3 bar) water blasting and manual/mechanical removal.

Use approximately 13 to 14 gallons | 49.21 to 53.0 liters of potable water per 450 kg | 992 lb. bulk bag of Quad-Flow. First add water to mixer, start mixer and add Quad-Flow until mortar is completely mixed.





PACKAGING/YIELD

European (Production of Material) Metric Units

			25.0MM | 0.98-INCH THICKNESS		
BAG SIZES (KG)	PACKAGING	YIELD PER BAG (M^3)	BAG COVERAGE (M^2)	MASS COVERAGE (KG/M^2)	WATER PER BAG* % BY WEIGHT
20	Plastic Bag	0.012	0.49	41.06	8.5 - 10.5
450	Super Sack	0.278	11.13		

European (Production of Material) Imperial Units

			25.0MM | 0.98-INCH THICKNESS		
BAG SIZES (LBS)	PACKAGING	YIELD PER BAG (FT^3)	BAG COVERAGE (FT^2)	MASS COVERAGE (LBS/FT^2)	WATER PER BAG* % BY WEIGHT
44.1	Plastic Bag	0.44	5.33	8.41	8.5 - 10.5
992.1	Super Sack	9.83	119.85		

North America (Production of Material) Metric Units

			25.0MM | 0.98-INCH THICKNESS		
BAG SIZES (KG)	PACKAGING	YIELD PER BAG (M^3)	BAG COVERAGE (M^2)	MASS COVERAGE (KG/M^2)	WATER PER BAG* % BY WEIGHT
453.6	Super Sack	0.278	11.12	41.44	8.0 - 10.0

North America (Production of Material) Imperial Units

			25.0MM | 0.98-INCH THICKNESS		
BAG SIZES (LBS)	PACKAGING	YIELD PER BAG (FT^3)	BAG COVERAGE (FT^2)	MASS COVERAGE (LBS/FT^2)	WATER PER BAG* % BY WEIGHT
1,000	Super Sack	9.82	119.7	8.49	8.0 - 10.0

*Due to natural deviations in the constituent materials, additional water may be necessary on occasion. Applicators are trained to adjust as needed based upon field performance of the product.