

AF-D ARMOUR GUARD

Specially formulated, high performance, steel fibre reinforced shotcrete/concrete mix designed to provide superior impact and abrasion resistant characteristics.

AF-D Armour Guard is a pre-blended, pre-packaged dry process shotcrete material containing high performance cement, silica fume, steel fibres, trap rock and other carefully selected components. **AF-D Armour Guard** is designed to produce superior impact and abrasion resistant characteristics.

FEATURES & BENEFITS:

- Superior impact and abrasion resistant characteristics.
- Significantly increased load carrying capacity.
- Significantly increased energy absorbing capacity (toughness).
- Rapid early age strength development.
- Resistant to high temperatures and thermal cycling.
- Low permeability.
- Blended to meet ACI 506 "Guide to Shotcrete", Table 2.1, Gradation #2.
- Can be poured in place as a concrete mix.
- Pre-packaged under international quality standards of ISO 9001:2000.

USES:

- Ore pass linings
- Ore pass brows
- Truck dumps
- Ore and rock chutes
- Other areas of high impact and abrasion

PROCEDURES:

Surface Preparation:

All surfaces to be in contact with **AF-D Armour Guard** must be free from dust, oil, grease or any other foreign substances that may interfere with the bond of the material. Remove all loose or delaminated rock. Clean the area with potable water, leaving the substrate saturated but free of standing water (SSD).

Application:

Apply **AF-D Armour Guard** in accordance with the ACI 506 "Guide to Shotcrete" publication. If placing as concrete, note mix is not pumpable.

Curing:

Good curing conditions are beneficial to optimizing physical properties of **AF-D Armour Guard**. Although the high relative humidity commonly found in underground

environments provides for good curing conditions, additional curing is often appropriate and should be performed in accordance with ACI 308 "Standard Practice for Curing Concrete".

TECHNICAL DATA:

The following data is representative of typical values achievable using proper application techniques as outlined in ACI 506 "Guide to Shotcrete" publication. The data was obtained during project field tests and in-house shotcrete studies.

Compressive Strength

ASTM C 42

8 hours	25 MPa (3600 psi)
1 Day	40 MPa (5800 psi)
3 Day	45 MPa (6525 psi)
7 Day	48 MPa (7000 psi)
28 Day	58 MPa (8400 psi)

Relative Abrasion Resistance

1,000g / 1,000 revolutions

ASTM C501	1.96 g
(weight loss)	

Impact Resistance

ACI 544-2R Drop Weight Test

450 blows	Indentation of 10-12 mm (Specimen still intact)
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OPTIMUM PERFORMANCE:

- **AF-D Armour Guard** should not be applied when ambient, substrate and material temperatures are below 0°C (32°F).
- Performance of in-place shotcrete relies heavily upon application techniques. To ensure optimum quality of in-place shotcrete, the material, equipment and key personnel should be pre-qualified prior to project start-up.
- Material should be stored in a dry covered area protected from the elements. Physical properties of **AF-D Armour Guard** may be adversely affected if material is stored in temperatures below 0°C (32°F). Material stored below these temperatures should be allowed to warm to ambient underground temperatures before shooting. Material should be stored in a dry covered area protected from the elements.

YIELD:

1,000 kg (2,205 lb.) bag contains approximately 0.45 m³ (16.5 ft³)

Mixing Strength With Satisfaction

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PACKAGING:

AF-D Armour Guard is normally packaged in 1,000 kg (2,205 lb.) re-useable bulk bags and poly wrapped on wooden pallets. All **KING** products can be custom packaged to suit specific job requirements.

SHELF LIFE:

Unopened bags have a shelf life of 12 months when stored as recommended.

SAFETY PROCEDURES:

AF-D Armour Guard contains high performance cement. Normal safety-wear such as rubber gloves, dust mask and safety glasses used to handle conventional cement based products should be worn. Material Safety Data Sheets are available upon request.

This product is designed to meet the performance specifications outlined in this product data sheet. If the product is used in conditions for which it was not intended, or applied in a manner contrary to the written recommendations contained in the product data sheet, the product may not reach such performance specifications. The foregoing is in lieu of any other warranties, representations or conditions, expressed or implied, including, but not limited to, implied warranties or conditions of merchantable quality or fitness for particular purposes, and those arising by statute or otherwise in law or from a course of dealing or usage of trade.