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ARAPLEX 2000 CEMENT MORTAR MODIFIER

DESCRIPTION

Araplex 2000 is a water dispersion of an emulsion polymer specifically designed for modifying Portland cement compositions. Important application areas include patching and resurfacing, floor underlayments, terrazzo flooring, spray and fill coats, precast architectural building panels, stucco, industrial cement floors, and highway and bridge deck repair.

FEATURES

Cement mortars modified with Araplex 2000 are hard, tough and durable. Compared with unmodified mortars, polymer modified mortars have superior flexural, adhesive and impact strengths, as well as excellent abrasion resistance. They are especially useful where thin sections are desirable and where excessive vibration and heavy traffic are encountered.

BENEFITS

- Plasters are "buttery" - easier to place.
 - Greater adhesion.
 - Araplex 2000 modified cement mortars have excellent adhesion to a variety of surfaces such as concrete, masonry, brick, wood, metals and others.
- Resistance Properties:**
- Cement mortars prepared with Araplex 2000 are resistant to many industrial chemicals and have excellent resistance to ultraviolet light and heat. They dry to a uniform colour with no tendency toward yellowing or discoloration.
 - Plasters modified with Araplex 2000 have a higher resistance to **staining** and the ingress of water or chemicals.
- Curing Advantages:**
- For optimum physical properties, cement mortars modified with Araplex 2000 should be air cured at ambient temperature and relative humidity. Unlike unmodified mortars, which require laborious moist curing conditions for optimum strength properties, polymer modified mortars should not be cured under these conditions.

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ARAPLEX 2000 (cont'd)**TYPICAL PHYSICAL PROPERTIES:**

Composition:	Pure acrylic dispersion
Appearance:	White, milky liquid
Solids content:	40 ± 1.0%
pH when packed:	9.5 to 10.0
Specific gravity:	1.05
Pounds per gallon:	8.8
Freeze-thaw stability:	5 cycles
Min film formation temperature:	10°C to 12°C

MIX RATIOS:

The following is a standard plaster mix based on an optimum polymer **solid** to cement ratio of 0.1 (by weight).

Sand	300
Ordinary Portland cement	100
Araplex 2000	25
Water	25

In practice, this means diluting the Araplex 50/50 with water and using this as the "gauging water" only i.e. no further water. Varying the consistency is achieved by adding more or less pre-diluted Araplex 2000.

Plasters based on 100% Araplex 2000 (i.e. no water of dilution) are used only where plasters of high flexibility are required.

MORTAR PREPARATION:

Predilute the Araplex 2000 as above. Mix sand and cement in the correct ratio and simply add and mix the Araplex 2000 mixture until the desired consistency is reached.

Mixing with a power drill is very effective. Continued mixing will entrain **air** and produce a creamy product with good handling properties but **lowered** Compressive strength due to the air. This is shown in the chart below.

Density	Tensile Strength (PSI)
1.6 (high air content)	300
1.7	350
1.8	420
1.9	500
2.0 (low air content)	540

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LENGTH OF CURE:

All cement mortars continue to cure with the passage of time. It is believed that it takes about 28 days for both polymer modified and un-modified cement mortar to obtain approximately 90% of their ultimate physical properties. Similar behaviour also occurs in other physical strength properties.

To obtain maximum physical strength properties Araplex 2000 modified cement mortars should be air cured at ambient temperature and relative humidity, avoiding the use of moist curing techniques, a laborious procedure used with unmodified mortars to obtain optimum properties.

As noted earlier, **damp** curing is not required with Araplex 2000 modified mortar.

PHYSICAL PROPERTIES (Based on formula) (28 days air cure)

Compressive strength MPa	54
Tensile strength MPa	5.3
Flexural strength MPa	13.6

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