

# PADRAPAT PARS

## Products for Repair



## PADRA-Patch HRM-339

### High performance cementitious repair mortar

#### DESCRIPTION

PADRA-Patch HRM-339 is a high performance cementitious, non-shrink, one-component and polymer-modified repair mortar. When mixed with water, produces a thixotropic and high strength repair mortar with excellent bond characteristics to steel reinforcement and to concrete. It contains steel fiber as well as polymeric fibers.

#### WHERE TO USE

PADRA-Patch HRM-339 is a high performance repair material based on polymer modified cementitious mortar which provides good abrasion resistance especially in hydraulic structures. It provides excellent bonding to well prepare concrete substrates. PADRA-Patch HRM-339 can be used in the followings:

- Structural repairing of hydraulic structures such as tunnels, galleries, spillways, chutes, and so on.
- Repair of marine structures
- All type of structural and non-structural repairs
- As a cavity filling mortar
- As an abrasion resistance layer on concrete surfaces subjected to water wear

#### ADVANTAGES

PADRA-Patch HRM-339 is a ready to use repair mortar (to be mixed with water only) and has following advantages:

- Good flexural strength
- Easy to use and excellent workability
- Good mechanical strengths
- Extremely low permeability
- Good abrasion resistance
- Excellent frost resistance
- Non corrosive, non-toxic
- Permeable to water vapour (allows substrate to breath)
- Thixotropic, dose not sag when applied vertically
- Does not shrink while curing
- Modulus of elasticity and coefficient of thermal expansion similar to concrete

#### TECHNICAL INFORMATION

<b>Appearance</b>	Gray powder
<b>Mixing ratio</b>	Water : Powder = 1.0 : 6.5~7.0 parts by weight
<b>Density</b>	1.450 kg/l (bulk density of powder) 2.30 kg/l (Fresh mortar)
<b>Bonding strength</b>	> 3.0 MPa (Concrete failed)
<b>Compressive strength</b>	26 MPa (3 days) 38 MPa (7 days) 56 MPa (28 days)
<b>Flexural strength</b>	> 5 MPa (7 days) > 9 MPa (28 days)
<b>Service temperature</b>	-50 to +150 °C
<b>Full cured</b>	After 28 days (at 25 °C)
<b>Working Time / Pot life</b>	45 min. (25 °C)



# PADRA-Patch HRM-339

## HOW TO USE

<b>Surface preparation</b>	The substrate must be sound and free of loose particles. Remove dust, laitance, oil, grease, curing compounds, impregnations, waxes, foreign particles, disintegrated materials, and other bond inhibiting materials from the surface. Surface can be prepared by blasting methods, water jet, grinding, or chipping. Wet the substrate to saturated surface dry (SSD). The perimeter of the damaged areas of concrete should be saw cut to a depth of 10 mm with regular geometry. Feather edging is not permitted and a minimum thickness of 10 mm must be maintained over the whole repair area.								
<b>Mixing</b>	Pour water in given quantity (approximate 4.0 liters per 25.0 kg powder) into the mixing container. Add powder while mixing continuously. Mix thoroughly using a low speed drill (max. 300 rpm) and suitable paddle for at least 3 minutes. Mix until smooth and lump free mortar obtains. Avoid air entrainment during mixing.								
<b>Priming</b>	In general, no need bonding layer or priming. For sever honeycombing or very lose substrate, use PADRA-Patch LCB-333 as a sealing and bonding layer.								
<b>Application method</b>	Thoroughly mixed PADRA-Patch HRM-339 can be sprayed or hand applied on saturated surface dry (SSD) substrate. When applying by hand by using a trowel, spatula, or knife, the mortar must be forced tightly in to the substrate to ensure well compaction and intimate contact with the pre-wetted substrate. As soon as the repair mortar has started to set, the surface may be finished with a trowel. For layer thickness higher than 30 mm, PADRA-Patch HRM-339 must be applied in several layers with 1~2 hour interval between layers. Immediately after application mortar should be kept moist, especially if it is exposed to sunshine or wind. Normal curing procedures for cement mortars should generally be observed. <b>Note:</b> For shallow repair areas (thickness less than 20 mm) subjected to tangential surface force or water flow, It is recommended use PADRA-Epoxyem EMB-323 or PADRA-Poxy EBL-313 as bonding layer.								
<b>Material consumption</b>	One 25 kg bag of PADRA-Patch HRM-339 with 4.0 liters of added water will yield approximately 12.50 liters fresh mortar. For 1 liter fresh mortar, on the other hand, 2.00 kg powder is required.								
<b>Application limits</b>	<table> <tr> <td>Minimum layer thickness:</td> <td>10 mm</td> </tr> <tr> <td>Maximum layer thickness:</td> <td>30 mm</td> </tr> <tr> <td>Minimum application temperature</td> <td>5 °C</td> </tr> <tr> <td>Maximum application temperature</td> <td>35 °C</td> </tr> </table>	Minimum layer thickness:	10 mm	Maximum layer thickness:	30 mm	Minimum application temperature	5 °C	Maximum application temperature	35 °C
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<b>Cleaning</b>	All working tools can be cleaned with water while material is still fresh. Hardened material can only be removed mechanically.								

## Storage / Shelf life

Store out of direct sunlight, and protected from extreme heat and rain fall. Avoid excessive compaction. The shelf life for originally unopened package is 24 months from date of production.

## Packaging

PADRA-Patch HRM-339 is available in 25 kg bags.





## PADRA-Patch HRM-339

### **Safety precautions**

Product is caustic (cement). Protect skin and eyes from contact with fresh mortar. Wear gloves and goggles. In contact with eyes or mucous membrane, flush immediately with plenty of warm water and seek medical attention without delay.

This product should be handled carefully to minimize dust formation during mixing. Use a light mask if excessive dust is unavoidable. Dispose of in accordance with local regulations.