

Material Test for Retrofitting Construction

Retrofit technology is not only the design technology or construction but also the selection of the construction materials to consider the balance between the quality and the cost.

The construction materials should be a good quality, reasonable price, and high availability in Bangladesh market. Besides, the materials should have a high work availability, also.

Main materials are the following.

- Chemical epoxies.
- Gravels of concrete.
- Non-sharing grout with gravels and sand.
- Concrete with admixture

We collected the materials each from high available company in the market with the cooperation of the supplier. After that, we made the model with retrofitting specification.

															
<p>a slab model we made</p>	<p>Installation of anchors and set the pull out machine</p>														
	<p>Dry condition</p> <table border="1" data-bbox="759 1491 1436 1760"> <thead> <tr> <th>Company</th> <th>Material Name</th> </tr> </thead> <tbody> <tr> <td>Index</td> <td>MO-H-410</td> </tr> <tr> <td>Duss</td> <td>Epoxy VME 585</td> </tr> <tr> <td>Fisher</td> <td>FIS EM 360 S</td> </tr> <tr> <td>Mungo</td> <td>MIT-SE Plus 350</td> </tr> <tr> <td>BASF</td> <td>Master Flow 935 AN</td> </tr> <tr> <td>HILTI</td> <td>HIT MM+</td> </tr> </tbody> </table>	Company	Material Name	Index	MO-H-410	Duss	Epoxy VME 585	Fisher	FIS EM 360 S	Mungo	MIT-SE Plus 350	BASF	Master Flow 935 AN	HILTI	HIT MM+
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<p>After testing</p>	<p>Target epoxy</p>														

Photo-1 Epoxy Test

Regarding anchoring, we use epoxy not only in dry condition, or in wet condition but also, on the submerged condition. All company productions are good as the construction materials. But if we use the dry condition epoxy in submerged condition, it should be not effective as the anchor. So, a good instruction is necessary to the contractors, otherwise they use the dry condition epoxy to the submerged conditions.

The following test work is to check the workability of the micro concrete that composes of non-shrink grout and gravel. In generally, the micro-concrete has enough strength, but flowability is not same as the mix ratio. So we take relationship among the strength, flowability and workability.



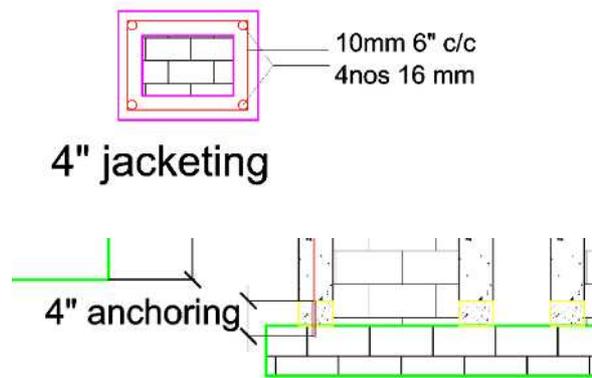
Checking flowability of micro-concrete



Brick column before RC jacketing



Shuttering work of RC-jacketing for brick column



Mock up test drawing

Photo-2 Mock up Test