Introduction

In some cases, it is possible to apply Promat FENDOLITE® MII to steel structures without a reinforcement mesh. However, to avoid cracking and de-bonding, this can only be done under very specific conditions. It is strongly recommended that for a given project, application without a reinforcement mesh is only done after thorough evaluation with the parties involved.

Fire performance

In the past, fire tests have been done both with and without mesh. Fire tests results without mesh show similar fire resistance performance. In UL design XR719 it is stated that a reinforcement mesh is optional for fire resistances up to 3 hours.

Conditions for application without mesh

Application without mesh can only be done if all of the following conditions are met:

- indoor environment (no freezing, no wind, low relative humidity, no aggressive substances, etc.),
- no vibrations of the steel structure,
- no mechanical impact or loading on the spray mortar.
- the quality of the steel substrate and eventual existing coating layers must be such that they will not deteriorate the bonding.

Whether the conditions are sufficiently favourable for an application without mesh should be part of an evaluation involving the owner/client or his engineer. In case of doubt, it is recommended to apply a reinforcement mesh as a belts and braces approach.

Application without mesh

In case of application without mesh, the substrate surface preparation shall be done with the utmost care, and PROMAT® PSK 101 shall **always** be used to ensure adequate bonding. Preferably, a splatter keycoat of PROMAT® SBR Bonding Latex mixed with Promat FENDOLITE® MII can be applied over the cured PROMAT® PSK 101 for further enhancement of the bonding. This is specifically recommended for layer thicknesses typical for fire resistances of 2 to 3 hours. For specific instructions for application of PROMAT® PSK 101 refer to EIDS 050. For specific instructions for application of a keycoat of PROMAT® SBR Bonding Latex mixed with Promat FENDOLITE® MII refer to EIDS 019.

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