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TBE COMMUNICATION PAPER ON THE IMPLEMENTATION OF EN 772-22

To the attention of architects, engineers and builders

Background

Clay bricks (clay masonry units foreseen to be used in unprotected masonry) available on the market in Europe require a declaration of durability.

Durability is expressed by the freeze/thaw resistance of the products related to the exposure. The freeze/thaw resistance declaration enables designers to make sure that the specified brick is applicable in the intended exposure conditions of the project.

What has changed?

The product standard EN 771-1 enables the producer to declare the freeze/thaw resistance F0 (passive), F1 (moderate) and F2 (severe).

The new European test method to determine the freeze/thaw resistance is EN 772-22 *'Methods of test for masonry units - Part 22: Determination of freeze/thaw resistance of clay masonry units'*. Freeze/thaw resistance, F2 (80), as well as the conditions to declare the F1 freeze/thaw resistance, have been included.

The F2 category determines freeze thaw resistance and applicability for unprotected masonry in severe exposure conditions (like in facades). However there are some specific applications, where bricks are in constant contact with open water (e.g.: in canals). In this case the F2 (80) freeze/thaw resistance can be declared.

| Exposure as indicated in the product standard EN 771-1:2011 + A1:2015 | Freeze-thaw resistances related to exposures as mentioned in the test standard EN 772-22:2018 | |
|---|--|---|
| F0 Passive exposure | F0 (frost resistance not determined) | |
| F1 Moderate exposure | F1 (n) where n (< 100 cycles) gives the number of freeze/thaw cycles where no damage has been observed | |
| F2 Severe exposure | F2 frost resistance documented through 100 cycles (normal saturation) foreseen to be used for unprotected masonry (e.g.: façade) | F2 (80°C) frost resistance documented through 100 cycles (extreme saturation) foreseen for units permanently in contact with open water (e.g.: in canals) |