
PROPER SUBFLOOR DEFLECTION WHEN SETTING NATURAL STONE

This technical bulletin addresses the concern of the recommendation for subfloor rigidity designed to accommodate weaker stones. At this time, ANSI specifies that deflection cannot exceed L/360 or slightly less than 1/2" (13 mm) (+/-) in 15 feet (4.6 m). ANSI does not make allowances for tile types nor specifies different deflection requirements for stone.

Due to the changes in the construction industry where subfloors with 19.2" (48.7 cm) o.c. joists and 24" (61 cm) o.c. truss systems where deflections greater than L/360 are becoming common, the Marble Institute of America has made a recommendation for a more rigid subfloor when setting certain stones. These stones can include soft stone such as marble and travertine, stone larger than 12" x 12" (30 x 30 cm), stone with heavy veining or voids, thin stone less than 3/4" (19 mm) thick. These stones are more prone to cracking or disbonding due to their fragile nature. This is where subfloor rigidity becomes critical. MIA has recommended subfloor deflection not to exceed L/720 including all live and dead loads or slightly less than 1/4" (6 mm) (+/-) in 15 feet (4.6 m).

Fundamentally, Custom® Building Products has no objection to the MIA or specific stone manufacturers or distributors from requiring a more rigid substrate to protect more fragile stone from disbonding or cracking. Where culpability for failure enters the discussion, it should be noted that it is not the responsibility of the mortar manufacturer to mandate requirements outside those that are already recognized and accepted.

Custom manufactures a number of products that will effectively bond a wide variety of stones to acceptable substrates. It is the stone manufacturer and/or distributor however that must provide direction or warnings that would allow the purchasing party to take the necessary steps to properly engineer a floor receiving this type of fragile stone. Should failure occur due to lack of information or improper subfloor preparation, Custom will not accept responsibility for product failure.



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