CTU Online Anytime Module 1.1 - Verify the Substrate

Key Takeaways

Surface Preparation 101

Surface preparation is the first and most critical step of any tile installation and it begins with assessing the substrate.

Importance of the Substrate

The materials needed to complete the project successfully depends on the existing condition of the substrate and the type of surface preparation that will be required to make the substrate meet standards.

Suitable Substrates

- Substrates generally accepted for direct bonding of tile (if they meet ANSI standards):
    - Cementitious leveling compounds
    - Concrete mortar beds and masonry blocks
    - Cement backer boards
    - Exposure 1 or external grade plywood
    - Gypsum wallboard and underlayments
    - Existing well bonded ceramic tile
    - Existing well bonded sheet vinyl flooring
    - Plastic laminates
    - Cement or epoxy terrazzo
    - Steel decking

ANSI Standards and Verifying the Substrate

- Substrate condition needs to be qualified as acceptable prior to installation.
    - Always consult the ANSI (American National Standards Institute) for installation standards.
    - Tile contractors are advised to follow the V.A.L.U.E. chain and verify the substrate.
    - When on a job, it is the responsibility of the tile contractor confirm the substrate is suitable.
- The substrate must meet the standard ANSI A108.02 - 4.0, “General Requirements for Tile Installations.”
- ANSI A108.02 - 4.1.1 states all surfaces shall be structurally sound, clean, dry, and free of oily or waxy films and all foreign matter. Concrete surface shall be free from oil, curing compound, laitance and cracks.
    - Three keys points to remember:
        - Sound and stable – can support the tile assembly
        - True and smooth – substrate must meet tolerances
        - Ready to accept bonding materials – clean and absorptive
- ANSI A108.01 - 2.1, “Preparation by Other Trades” states the quality and cost of ceramic tile installations are influenced by the stability, permanence and precision of installation of the backing or base material.

Almost all substrates will require some surface preparation to meet the requirements.