



Industry Position Statement

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Performance Concerns of Lightweight Structural Concrete Roof Decks

Decks may not be suitable for durable, sustainable roofing systems

The roofing industry is increasingly experiencing roof system performance issues when roof systems are installed over lightweight structural concrete roof decks. The high moisture content of these decks, coupled with long drying times and an inability to determine when roofing can commence, pose significant risk of roof failure and other performance deficits. This risk is significantly increased by the standard practice of installing these decks over non-removable, form deck or other non-permeable substrates. These moisture issues are not unique to the roofing industry. The flooring industry has experienced similar moisture issues with lightweight structural concrete, and those slabs are not subject to periodic re-wetting from being exposed to weather, as are roof decks.

Roofing stakeholders, such as designers, property owners, roofing contractors, and roofing manufacturers, are at significant risk when required to install roofing systems over wet roof decks. Issues with lightweight structural concrete decks include, but are not limited to, the following:

- Determining when a deck is ready for roofing.
- Measuring concrete moisture content.
- Loss of adhesion.
- Insulation facer delamination.
- Loss of R value.
- Microbial growth potential.
- Water-based adhesive curing issues.
- Corrosion of roof fasteners and other ferrous-containing roof components.

The selection of the deck material and its suitability for use is the responsibility of the designer of record, who must make appropriate design accommodations to address high moisture content encountered in lightweight structural concrete decks.