

**Tues., Feb. 26, 2:30 Discussion notes:**

Some participants felt that modules should not be walked on, so there is no need to test for that. Others felt that modules are walked on no matter what, so why not create an optional test? Another possibility is to could create mounting schemes and building codes that would avoid the walking – for example, rows between modules may be required so that there is a place to walk.

We are not currently testing for the following ways that modules may fail:

- A module is upside down with water puddled in it that freezes.
- Dirt acquires in the module connectors, leading to connector failures.
- Connectors are poorly mated, leading to moisture-related issues or accidental disconnection.
- Metallic connections work at room temperature, but may be problematic at high temperatures.
- Mounting is incorrect, leading to module breakage.

We need a test standard to make connectors compatible because expansion coefficients or other incompatibilities can cause arcing. IEC WG2 is addressing this, both for connectors and junction boxes. Similarly, there are existing standards or standards in progress for hail, transportation, etc.

There may be ways to reduce costs by making a less durable module that is acceptable for a subset of markets. By developing tests that differentiate the use conditions, we will enable the community to do this. It was suggested that the designs will diverge according to mechanical needs, rather than according to temperature. Because, for example, a manufacturing engineer wants a single product and a marketing person wants an array of products, it is difficult to predict how the markets and products will evolve.