KEY FACTS ABOUT SOUND TESTING IN A LAB

IIC AND ASTM E-2179-03:

- A new test method to determine the effectiveness of floor coverings in reducing impact sound transmission through floors
- 3 results are noted on the report:
  - IIC of bare floor
  - Total IIC of the final assembly with floor covering
  - ΔIIC (contributed IIC value) of the floor covering assembly
- Test provides a reliable ESTIMATE of the increase in IIC delivered by a floor system
  - Lab testing is based on a room of a specified dimension and construction, with controlled air qualities and limited outside variables to influence results.
  - A lab test report has a variability of +/- 3 IIC points to achieve 95% confidence levels

"The uncertainty limit of the impact noise test data is less than 3 dB for the 1/3 octave bands centered in the range from 100 to 400 Hz, and less than 2.5 dB for the bands centered on the range from 500 to 3150 Hz." – ASTM certified lab report from Intertek.

- Field test results of a given floor covering can vary from location to location, and even from test-to-test in the same location due to the many variables of a given room/location, including:
  - Room size
  - Furnishings in room
  - Street noise, elevators, and other sources of noise
  - Construction details
  - Air density, humidity, temperature etc.

STC:

- STC is a measure of transmission of airborne sound
- STC sound issues in a building are largely influenced by the density of the mass of the structure
- The ASTM E 90-90 tests the STC of a complete assembly.
- There is **NO TEST** to isolate and determine the contribution (if any) value of a sound reduction underlayment to the STC number
  - These products are designed and installed to address impact noise (IIC)

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