# Laboratory Sound Testing vs. Field Sound Testing

Suppliers in Sound Control products market their products based test data that is derived from tests done either in a controlled environment, such as an accredited Independent Testing Laboratory, on testing done in actual installations in the “Field”. Both Laboratory and Field testing are to be done in accordance with ASTM Standards for the test methodology as well as the measurement and interpretation of the results.

There are various schools of thought as to which test method is more reliable in predicting the results that will be achieved in a real world installation. While AcoustiCORK™ Products has testing in both the “Field” and “Laboratory” mode, we choose to publish only the accredited Laboratory version of our test data in our marketing materials. In the Field Tests, done in accordance with the ASTM E-1007 test protocols with AcoustiCORK™ Products, properly installed, they typically test at or above their laboratory values in similar assemblies.

When looking at test or marketing data that is expressed in “Field Test” terms, as FIIC Ratings, there are several factors the buyer or specifier should be aware of:

- To meet the International Building Code® (IBC) standard for impact noise reduction in multi-family housing, a minimum IIC of 50 in a Laboratory Test, in a comparable assembly, is required. As an alternative, to meet that same IBC standard, a “Field Test” of a minimum of FIIC 45 is required.

- Variations in ambient conditions, such as the size, shape, location, furnishings and appointments in the receiving room for a “Field Test” can have a significant impact on the results of the test. Other variables such as the floor level of the building tested (floors near the street level versus upper level stories) can also have an impact on the test results. Because of these variables, “Field Testing” (FIIC data) is generally acknowledged to only be valid in the exact building where the testing took place.

- IIC and STC numbers are somewhat logarithmic in nature, so the acoustic difference between one STC or IIC point in a rating of 51 versus 50 is greater than the acoustic difference between one STC or IIC point in a rating of 46 versus 45. The higher the STC or IIC value, the more difficult it is to gain each incremental increase in IIC or STC point value.

- “Field Test” data claiming an “FIIC Rating” of near 60 or above with hard surface flooring applied to a concrete sub-floor, with no suspended sound rated ceiling assembly, should be examined carefully for accuracy. In practice this is very difficult to attain, without a very elaborate system. If you are considering a system which claims this level of performance, make sure to get copies of the complete details of the assembly tested before making your decision.

- One should disregard “Field” or Lab Test data which claims superior performance to competitive products, at selected frequencies. The ASTM protocols, which govern these test methods, are very specific about the frequencies that are included in the tests and the method for determining either the STC or IIC rating of assemblies is based on using <u>all the applicable frequencies</u>.