# Product Update

JUL 03, 1997 #P119F Revision 00

Applies to Flush doors

## NOISE ISOLATION CLASS (NIC) COMPARISONS FOR STC DOORS

Riverbank Acoustical Laboratories (RAL™) has provided VT with the equivalent Noise Isolation Class (NIC) as described in ASTM E366 from the data obtained in accordance with ASTM E90 for tests RAL™ TL91-198 and RAL™ TL91-199. This is not an official standard procedure; results are to be used for approximate equivalent comparisons only.

### Laboratory Tests vs. Field Tests

The procedure to calculate the NIC value from the noise reduction (NR) values measured in the field in accordance to the field test, ASTM E366 (Standard Test Method for measurement of Airborne Sound Insulations in Buildings) is identical to the procedures used to calculate the Sound Transmission Class (STC) from the transmission loss (TL) values obtained in accordance to the laboratory test ASTM E90 (Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions). Both standards use the procedures described in ASTM E413. There is, however, a difference. The building (field) test conditions could vary considerably from the laboratory (ideal) conditions. In the laboratory - temperature, humidity, diffusion, room size, sound sources, etc. are all controlled, whereas in the field they typically are not. Also, in the field a considerable amount of flanking paths could exist that do not exist in the laboratory. Thus, the NIC values obtained from the NR values from the laboratory test data may or may not be indicative of the NIC value obtained from the NR values measured in the field. Typically the laboratory NIC value would be higher than the field NIC value.

Undoubtedly, many acoustitians will state, and rightly so, that the following Laboratory equivalent NIC results are only "ball park" estimates or approximations and only the NIC value as measured in the field would be germane. Following is the official laboratory STC values and the unofficial equivalent NIC values using the NR data from the two designated VT Industries laboratory tests. Both were calculated in accordance to the procedures described in ASTM E413.

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|---|---|---|
| Test RAL™ TL91-198 | STC = 45 | Equivalent NIC = 48 |
| Test RAL™ TL91-199 | STC = 39 | Equivalent NIC = 43 |



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