SECTION 1206
SOUND TRANSMISSION

1206.1 Scope.

Sections 1206.2 and 1206.3 shall apply to common interior walls, partitions and floor or ceiling assemblies between adjacent dwelling units or between dwelling units and adjacent public areas such as halls, corridors, stairs or service areas. Section 1206.4 applies to the *construction* of the exterior envelope of Group R occupancies within airport noise zones and to the exterior envelope of Groups A, B, E, I and M occupancies in any *locality* in whose jurisdiction, or adjacent jurisdiction, is located a United States Master Jet Base, a licensed airport or United States government or military air facility, when such requirements are enforced by a *locality* pursuant to § 15.2-2295 of the Code of Virginia.

1206.2 Airborne sound.

Walls, partitions and floor-ceiling assemblies separating *dwelling units* and *sleeping units* from each other or from public or service areas shall have a *sound transmission class* of not less than 50 where tested in accordance with ASTM E90, or have a Normalized Noise Isolation Class (NNIC) rating of not less than 45 if field tested, in accordance with ASTM E336 for airborne noise. Alternatively, the *sound transmission class* of walls, partitions and floor-ceiling assemblies shall be established by engineering analysis based on a comparison of walls, partitions and floor-ceiling assemblies having *sound transmission class* ratings as determined by the test procedures set forth in ASTM E90. Penetrations or openings in construction assemblies for piping; electrical devices; recessed cabinets; bathtubs; soffits; or heating, ventilating or exhaust ducts shall be sealed, lined, insulated or otherwise treated to maintain the required ratings. This requirement shall not apply to entrance doors; however, such doors shall be tight fitting to the frame and sill.

1206.2.1 Masonry.

The *sound transmission class* of concrete masonry and clay masonry assemblies shall be calculated in accordance with TMS 302 or determined through testing in accordance with ASTM E90.

1206.3 Structure-borne sound.

Floor-ceiling assemblies between *dwelling units* and *sleeping units* or between a *dwelling unit* or *sleeping unit* and a public or service area within the structure shall have an impact insulation class rating of not less than 50 where tested in accordance with ASTM E492, or have a Normalized Impact Sound Rating (NISR) of not less than 45 if field tested in accordance with ASTM E1007. Alternatively, the impact insulation class of floor-ceiling assemblies shall be established by engineering analysis based on a comparison of floor-ceiling assemblies having impact insulation class ratings as determined by the test procedures in ASTM E492.

1206.4 Airport noise attenuation standards.

Where the *daynight average sound level (Ldn)* is determined to be 65 dBA or greater, the minimum STC rating of structure components shall be provided in compliance with Table 1206.4. As an alternative to compliance with Table 1206.4, structures shall be permitted to be designed and constructed so as to limit the interior noise level to no greater than 45 *Ldn*. Exterior structures, terrain and permanent plantings shall be permitted to be included as part of the alternative design. The alternative design shall be certified by a *registered design professional (RDP)*.

Table 1206.4
AIRPORT NOISE ATTENUATION STANDARDS

Ldn	STC OF EXTERIOR WALLS AND ROOF/ CEILING ASSEMBLIES	STC OF DOORS AND WINDOWS
65–69	39	25
70–74	44	33
75 or greater	49	38