FIELD SOUND TESTING

When sound isolation between adjacent spaces separated by the operable wall is important, only field sound testing will guarantee the operable wall is performing as required.

Acoustical Engineers consider NIC (noise isolation class) measurement the most utilitarian and widely used method of determining the sound reducing effectiveness of operable walls. The NIC value, determined by field testing the actual product purchased for use by the Owner/Operator, usually predicts Customer Satisfaction. A further advantage of field measurement of NIC is the ability to locate, define and correct sound leakage not related to the operable wall. Examples would be holes in sound barrier above common ceiling, or common ductwork or conduit.

AEC guarantees that its operable walls will achieve certain NIC values provided that the surrounding building construction is compatible with that rating. The following table lists guaranteed NIC by ASTM standard by panel type.

When specified, AEC guarantees that all operable walls, manual or electric operation, will meet the above listed NIC values. Guaranteed performance is not reduced by the introduction of pass doors in the wall.

Series	Panel Construction	ASTM E 336
ALPHA	S	42
ALPHA	T	42
ALPHA	U	42
ALPHA	P	42
ALPHA	X	
SIGMA	A	38
SIGMA	B	39
SIGMA	C	40
SIGMA	D	41
GAMMA	H	37
GAMMA	L	39
GAMMA	M	37
GAMMA	N	38
GAMMA	O	40

FIELD SOUND TESTING

MANDATORY OR OPTIONAL FIELD SOUND TESTING

Once the decision has been made to field sound test the operable wall, it is then necessary to determine if the testing will be mandatory or optional. Mandatory testing requires that the wall be tested and that cost for the testing be included in the operable wall cost and paid for by the wall supplier. Optional testing reserves the right for the purchaser, at his option and cost, to test the operable wall within a stipulated time after installation.

OPTIONAL

Optional testing has the advantage of keeping the operable wall cost to a minimum while informing the wall supplier that the purchaser is serious about getting the acoustical performance he is paying for. Specification wording might be drafted as follows:

3.3 FIELD QUALITY CONTROL

A. Optional Testing: Owner reserves the right to fielD sound test any or all operable walls within 60 days of completed installation. Owner shall engage a qualified, professional, independent acoustical engineer to perform field tests and to prepare test reports. Cost of the field sound tests shall be responsibility of the Owner.

B. Testing Methodology: Testing of the installed operable wall(s) for noise isolation shall be performed according to ASTM E-336-05, determined by ASTM E-413, and rated for not less than the NIC indicated earlier in this specification. Wall(s) are to be adjusted and fitted to comply with NIC test method requirements.

C. Should an operable wall fail to achieve the specified NIC, wall
supplier shall have 60 days to make corrections/adjustments and pay for cost of retesting. This procedure shall be followed until all walls achieve the specified NIC.

D. Should a wall fail to achieve the specified NIC after corrections and/or adjustments and it is determined that failure is not due to sound flanking through surrounding building construction then the wall supplier, at its own cost, shall replace the operable wall with a new wall that is capable of achieving the specified NIC and pay for the cost of testing this wall.

E. Written results of the field sound tests shall be submitted to the Owner.

MANDATORY

Mandatory testing permits the inclusion of a monetary penalty in the specification.

3.4 FIELD QUALITY CONTROL

A. Mandatory Testing: Those operable walls as identified previously in this specification shall be field sound tested within 60 days of completed installation. Wall supplier shall engage a qualified, independent, professional, acoustical engineer to perform field sound tests and to prepair reports. Cost of the field sound tests shall be the responsibility of the wall supplier.

B. Testing Methodology: Testing of the installed operable walls for noise isolation shall be performed according to ASTM E-336-05, determined by ASTM E-413, and rated for not less than the NIC indicated earlier in this specification. Walls are to be adjusted and fitted to comply with NIC test method requirements.

C. Should an operable wall fail to achieve the specified NIC, wall supplier shall make corrections/adjustments and pay for the cost of retesting. This procedure shall be followed until all walls achieve the specified NIC.

D. The purchaser shall retain an amount equal to 15% of the contract amount until the operable walls achieve the specified NIC. This amount shall be prorated by surface area of the walls to be tested and released for payment as the walls achieve the NIC.

E. Should a wall fail to achieve the specified NIC after corrections and/or adjustments and it is determined that failure is not due to sound flanking through the surrounding building construction then the wall supplier, at its own cost, shall replace the operable wall with a new wall that is capable of achieving the specified NIC and pay for the cost of the testing of this wall. Retention funds shall not be released until this new wall has been tested and achieved the specified NIC.

F. Written results of the field sound tests shall be submitted to the Owner.

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