UPDATE
ANUTONE NEWSLETTER FOR THE DESIGN & BUILD COMMUNITY

anutone®
Acoustics Drywalls Ceilings Panelling

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Knowledge Series - Part 1 of 3

Performance by Design

An extract from the 300-page Reference Guide releasing January 2018

Anutone Update ends a successful 2017 with a 3-part Knowledge Series on how the design of acoustical drywalls | ceilings | panelling must be primarily based on functional performance requirements of enclosed spaces apart from other secondary considerations. There are nine functional performance parameters (other than Acoustics) and we will elaborate on three in each part as below:

Part 1
- Life Safety - Fire
- Life Safety - Seismic
- Impact Resistance

Part 2
- Climate Control - Thermal | Humidity
- Climate Control - Hygiene
- Lighting

Part 3
- Indoor Air Quality
- Environment - Green
- Maintainability

LIFE SAFETY - FIRE

The primary purpose of Fire Resistant, and not just Flame Retardant (though both are FR and herein lies the vital difference!) standards is to ensure that

- building base structures are well protected during a fire occurrence and do not immediately collapse
- heat release, smoke opacity and toxic emissions are less so that adequate time is available for fire personnel to arrive and efficiently evacuate people to safety. Prevention of loss of life is the main goal not prevention of overall damage to buildings.

Anutone drywalls, ceilings and panelling contain fire spread and protect building structures such that occupants can be evacuated to safety in time, the prime purpose of FR.

Towards this goal most Anutone products like Slats Surco are true Fire Resistant (FR) as per the 5-fire test protocol that includes

- BS 476 Part 5 - Ignitability
- BS 476 Part 6 - Propagation
- BS 476 Part 7 - Flammability
- ISO 1182 - Combustibility
- ASTM E662 - Smoke Density

and not just 1-fire test protocol of Flame Resistant (also FR) as per BS 476 Part 7 only which can be very misleading.

LIFE SAFETY - SEISMIC

Seismic design for drywalls, ceilings and panelling is based on

- Earthquake zone (see map)
- Building type and occupancy
- Soil conditions and history
- Anticipated ground movement

Zone 1 and 2 - normal design
Zone 3 - above normal design
Zone 4 and 5 - special design

Drywalls for Zone 3, 4, 5
Strut SC Series needs to be braced on directions of the structural consultant to the project. All junctions need to be mechanically fastened and tied, not just caulked.

Ceilings for Zone 3
Must follow ASTM E580 - Standard Practice for Installation of Suspension Systems for Acoustical Ceilings in Earthquake Areas. Incorporates lateral restraint systems except for ceilings <100m2. Snazz Series like Pixel Taper and Tufbloc ceilings exempt.

Ceilings for Zone 4, 5
Must follow both ASTM C636 and E580

Panelling for Zone 3, 4, 5
Panelling that is mechanically fastened to base walls directly like Strut CC10|25|50 needs no special precautions. Panelling that is away from walls like Strut FC|SC Series needs cross bracing similar to drywalls.

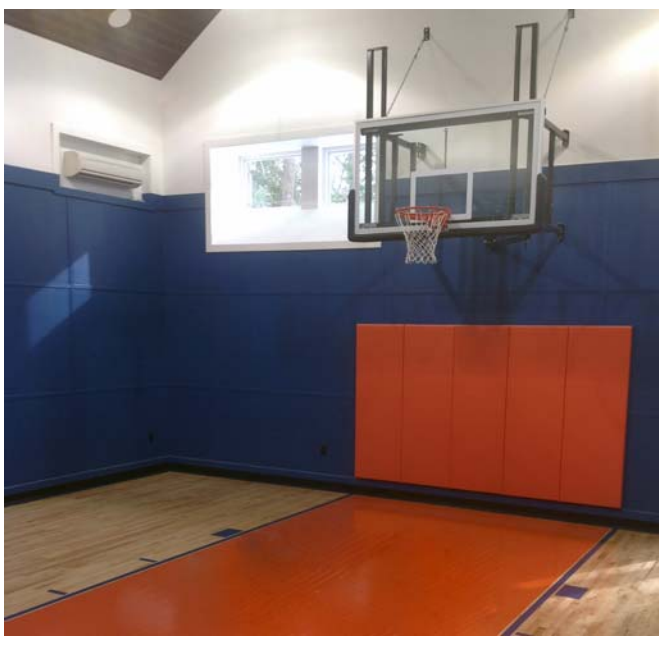
IMPACT RESISTANCE

Spaces where surfaces are likely to be impacted by unintended projectiles like ball-impact in

- Locker rooms
- Gymnasium
- Sports halls
- School corridors

need to be rigid and resistant.

Anutone has the perfect portfolio of ceiling | panelling products from the Mat and Strand Series that are rigid and hence resistant to ball impacts yet absorb sound.



Impact resistance is measured as per relevant clauses of IS 2380 (equivalent ASTM D1037 - Standard Test Methods for Evaluating Properties of Wood Particle Panels) and is primarily dependant on

- Panel thickness and density
- Panel anchoring and framing centres

More thickness and density in Mat | Strand Series results in better impact resistance.
Spacing of Strut CC10|25|50 in case of concealed framing at 300~400mm (instead of 600mm) centres is recommended where severe impact is anticipated as in lower reaches of walls.

The 300-page Limited Edition Reference Guide from Anutone on Acoustical Walls & Ceilings releases January 2018. For the first time one book has it all that you need to know on the subject. A true treasure trove. Reserve your free advance copy* with the local Anutone representative or write to Shobha at info@anutone.com

**eligibility criteria applies*

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