

CINEMA SOUND ISOLATION

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NEW ISSUES FACING DEVELOPERS

- NOISIER SITES NEXT TO RAILWAY TRACKS, FREEWAYS, AND AIRPORTS
- INCLUSION IN MIXED-USE RESIDENTIAL AND RETAIL BUILDINGS

CINEMA AS A NOISE RECEIVER

- ON-SITE NOISE (AND VIBRATION) MEASUREMENTS
- RAILWAY
 - AIRBORNE NOISE, GROUND VIBRATION
 - ISOLATE CINEMAS WITH RUBBER BEARINGS
- ROADS
 - WALLS AND DOORS TYPICALLY DOMINATE
- AIRPORTS
 - CEILING, WALLS, AND DOORS DOMINATE

CINEMA AS A SOUND SOURCE FOR RESIDENCES

- DO NOT LOCATE DIRECTLY ADJACENT TO RESIDENCES
- ACOUSTICAL OBJECTIVE TO PREVENT SLEEP INTERFERENCE

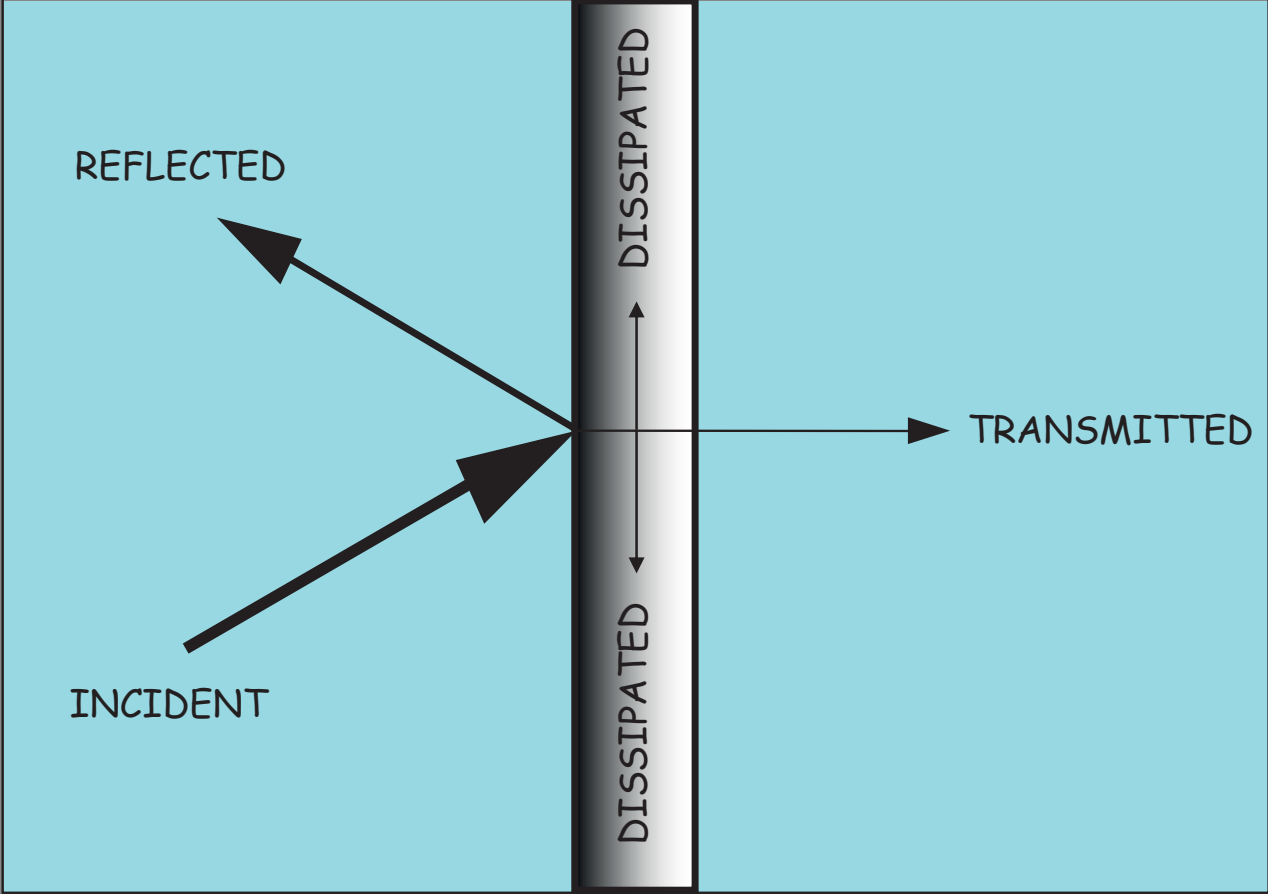
THE ROLE OF SOUND ISOLATION IN THE CINEMA PRESENTATION

- SUSPENSION OF DISBELIEF
-HOLDING THE PATRON IN THE
FILM STORY
- MAINTAINS THE POTENTIAL FOR THE
NOW EXCELLENT DYNAMIC RANGE OF
CINEMA AUDIO SYSTEMS
-BOTH TOP AND BOTTOM OF RANGE
- CRUCIAL TO THE SUCCESSFUL
IMPLEMENTATION OF MULTI-CINEMA

INTRUSIVE SOUND SOURCES IMPACTING CINEMAS

- EXTERIOR/EXTERNAL NOISE
 - TRAFFIC, AIRCRAFT, ETC.
 - ADJACENT TENANTS
- PATRONS IN ENTRY LOBBIES,
FOYER SOUND SYSTEMS, ELEVATORS,
AND ADJACENT CONCESSION AREAS
- SOUND SYSTEMS IN
ADJACENT CINEMAS

SOUND TRANSMISSION

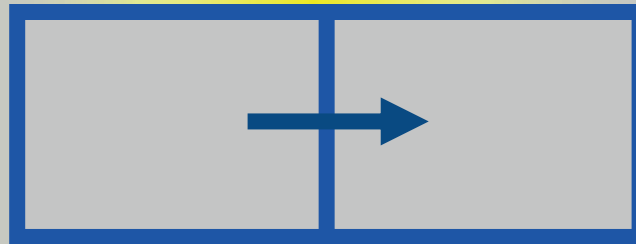


SOURCE

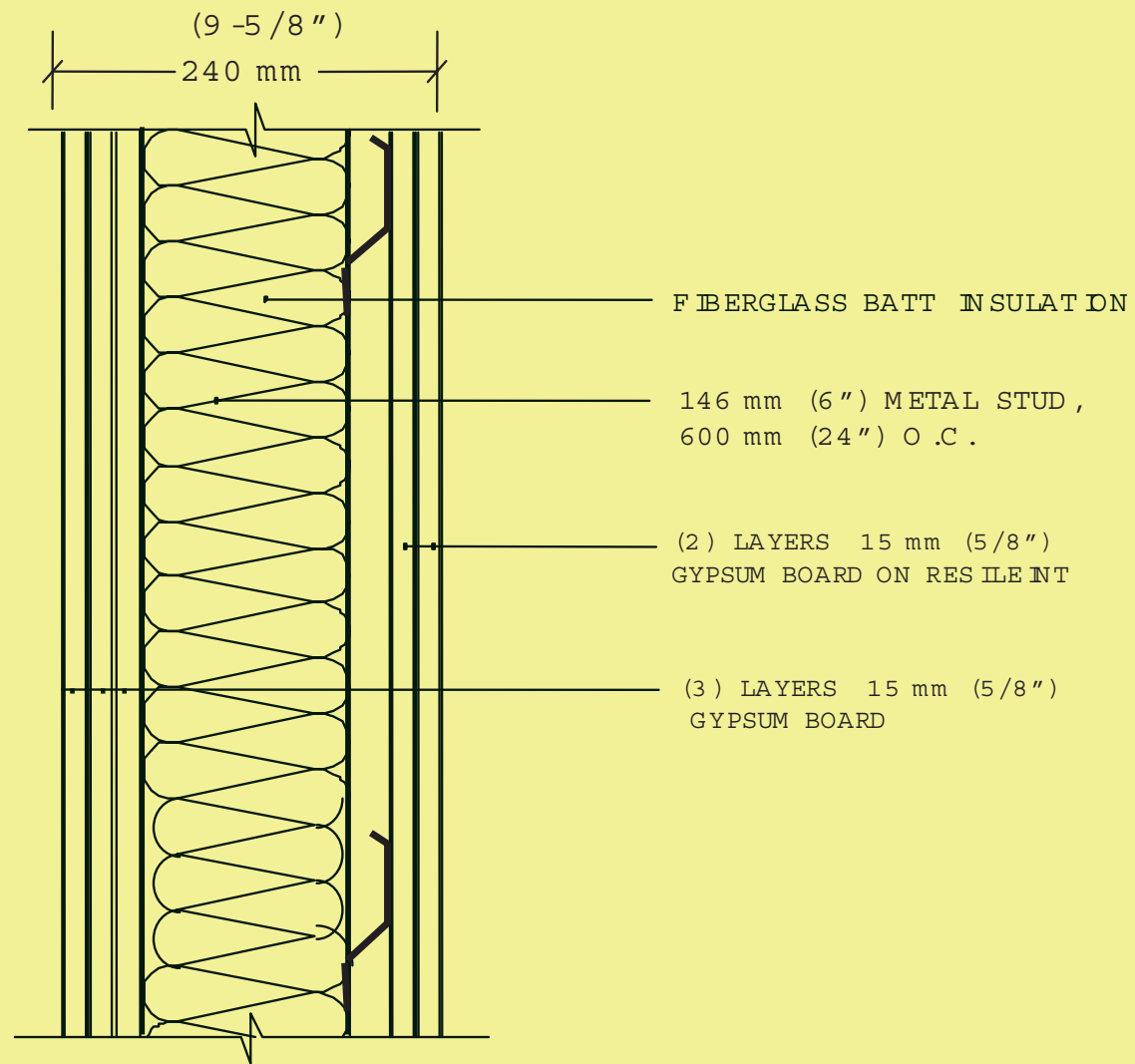
BARRIER

RECEIVER

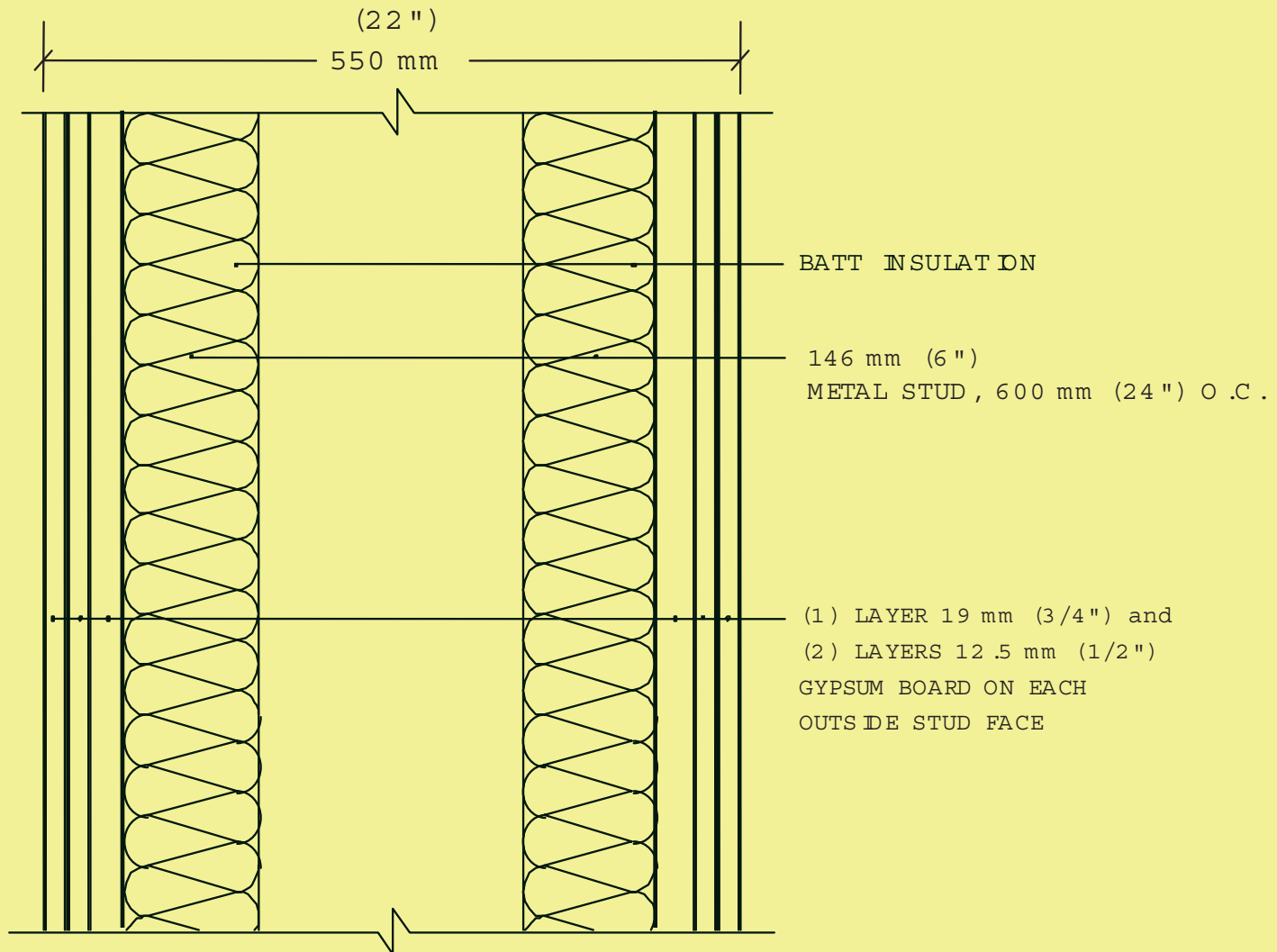
HORIZONTAL SOUND ISOLATION



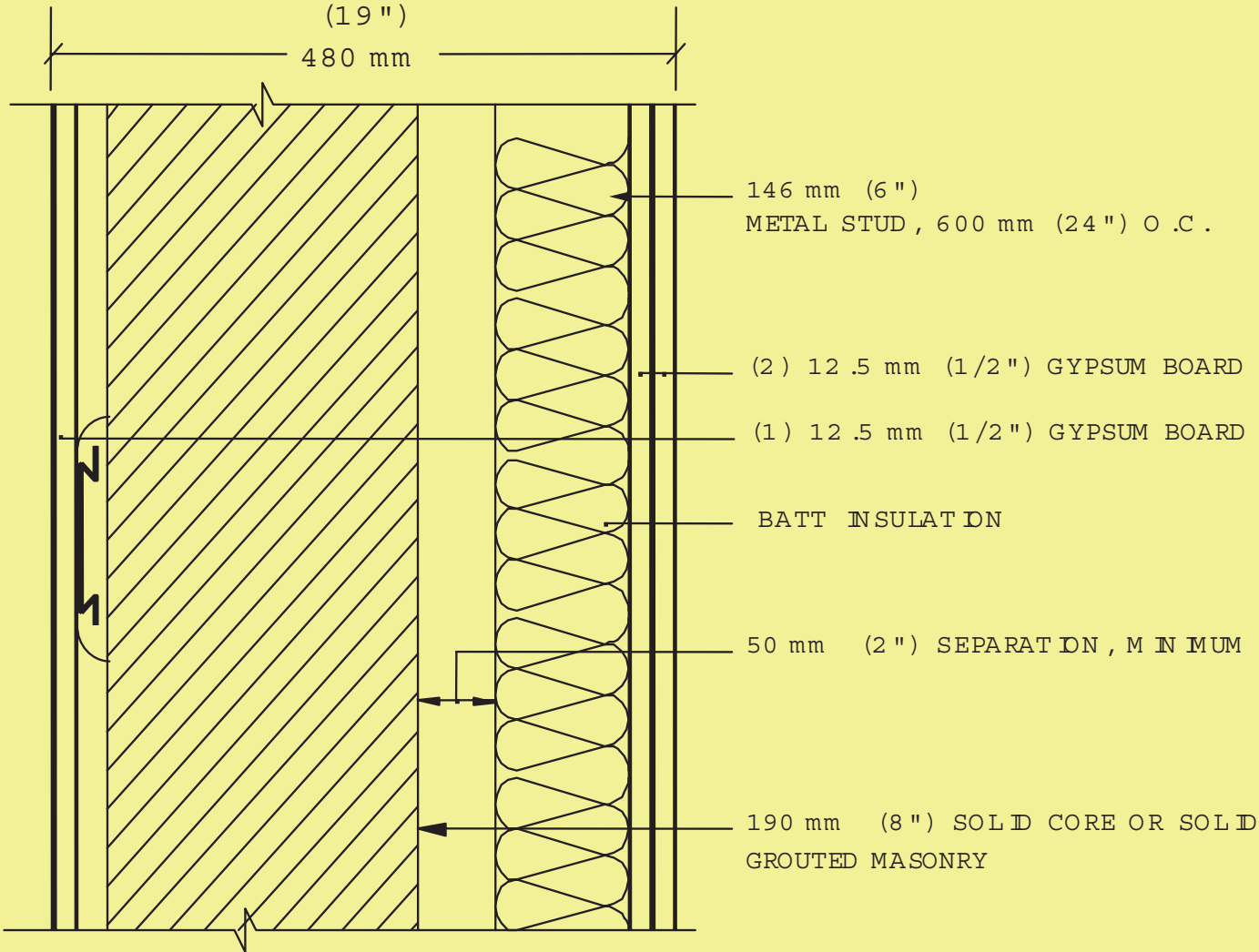
SINGLE FRAME/RESILIENT CHANNEL DEMISING WALL

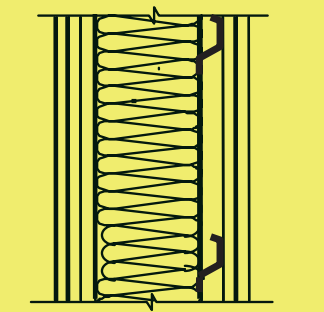


DOUBLE FRAME DEMISING WALL

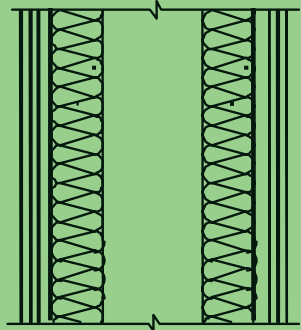


BLOCK/FRAME DEMISING WALL

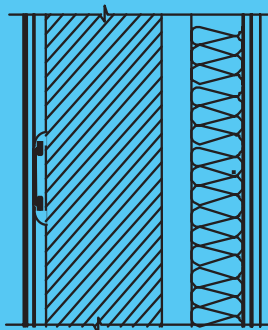




SINGLE STUD
RESILIENT CHANNEL

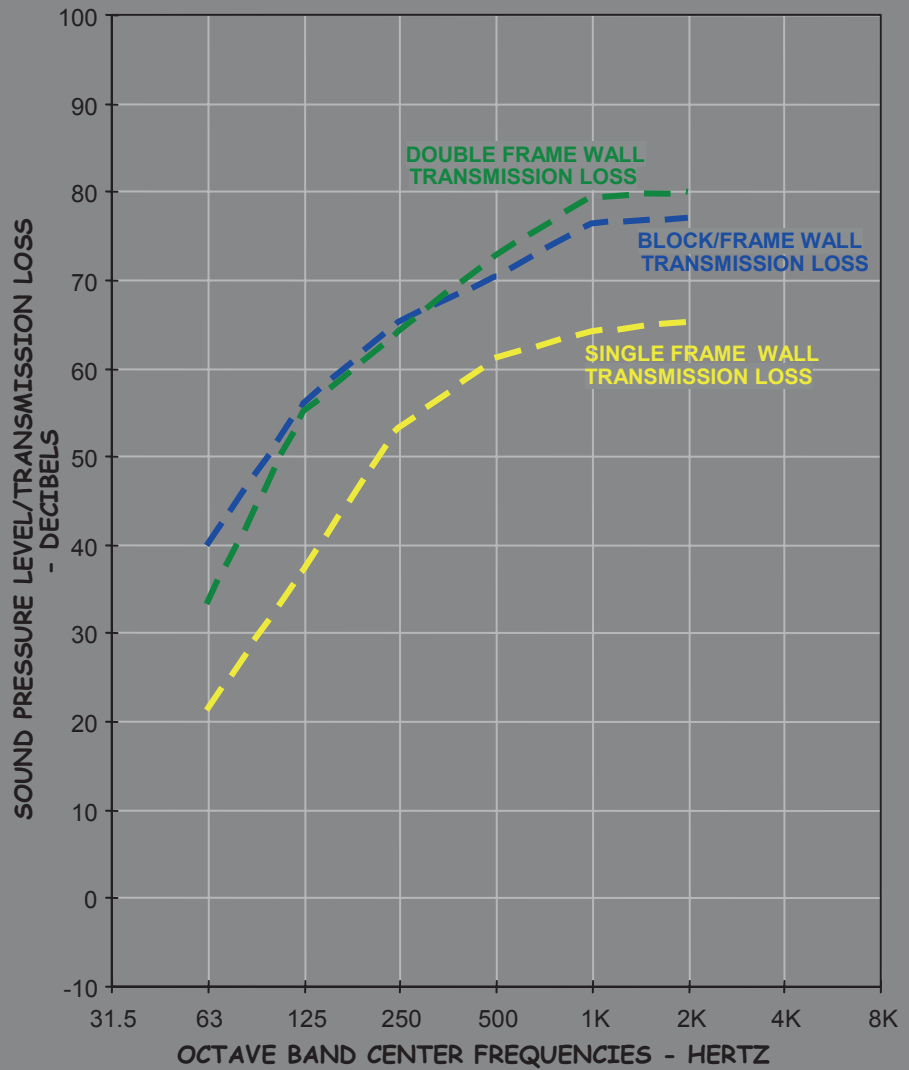


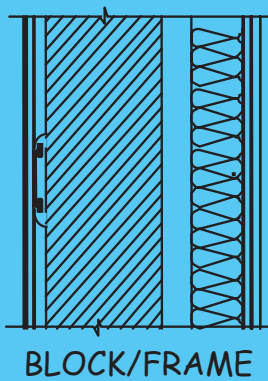
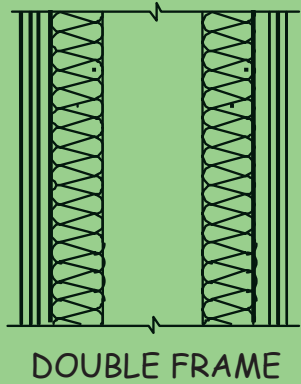
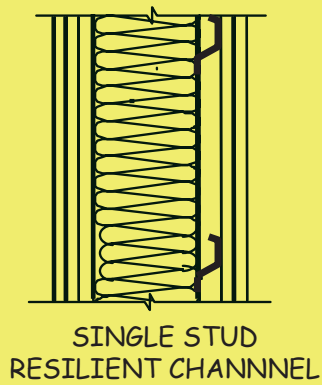
DOUBLE FRAME



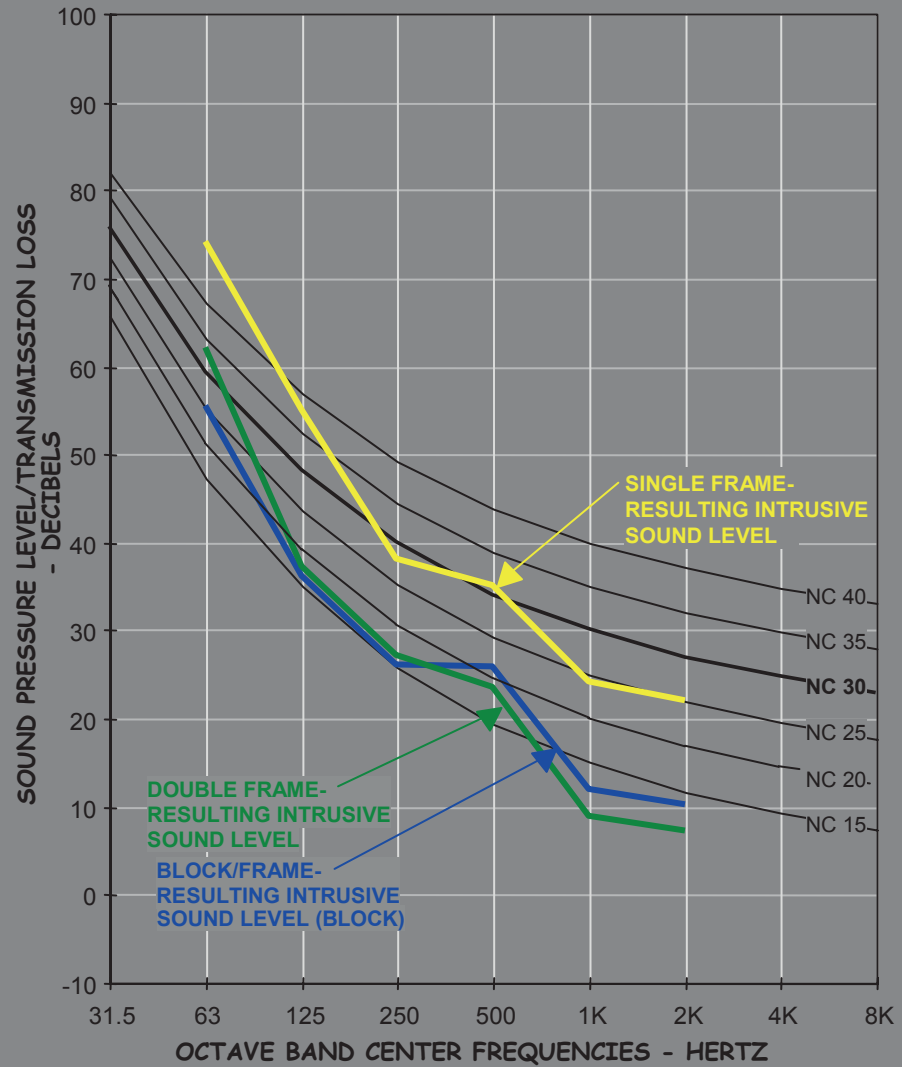
BLOCK/FRAME

DEMISING WALLS/THX RECOMMENDATION COMPARISON

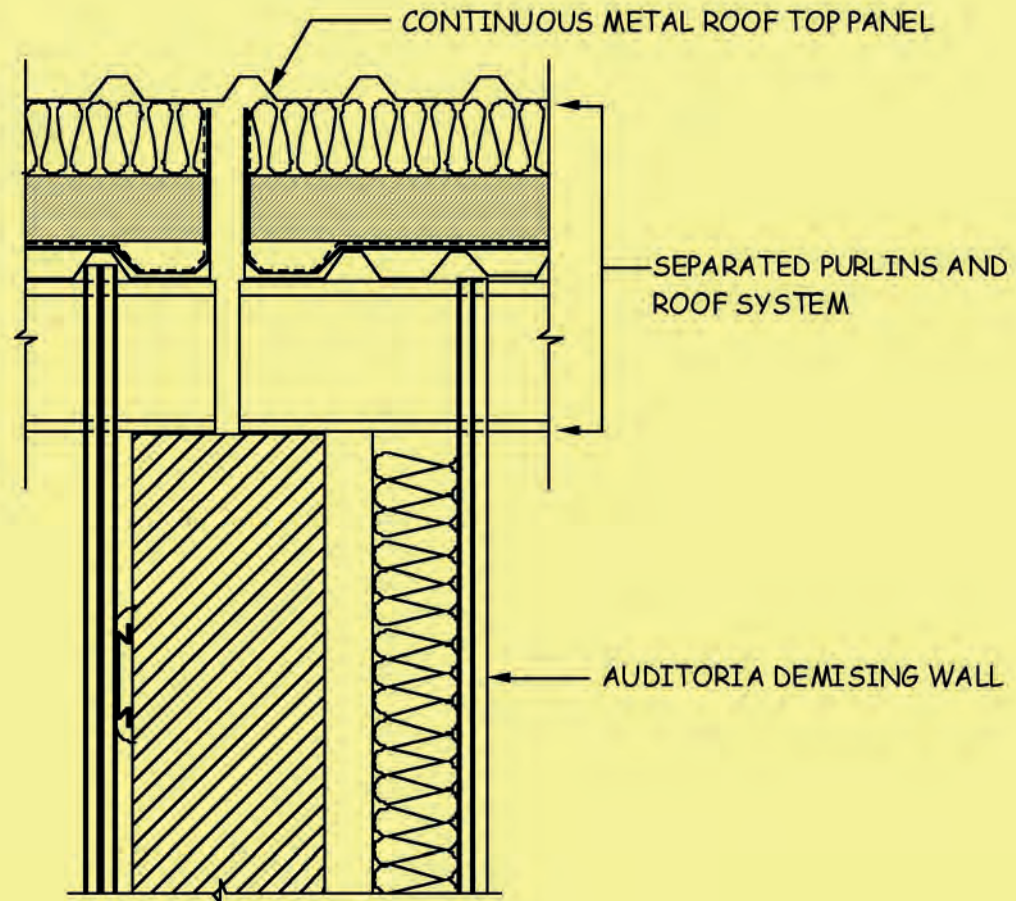




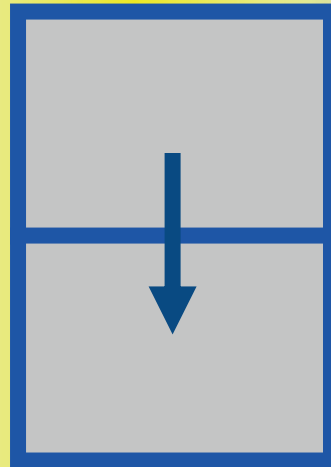
DEMISING WALL FIELD ISOLATION PERFORMANCE-RESULTS ONLY

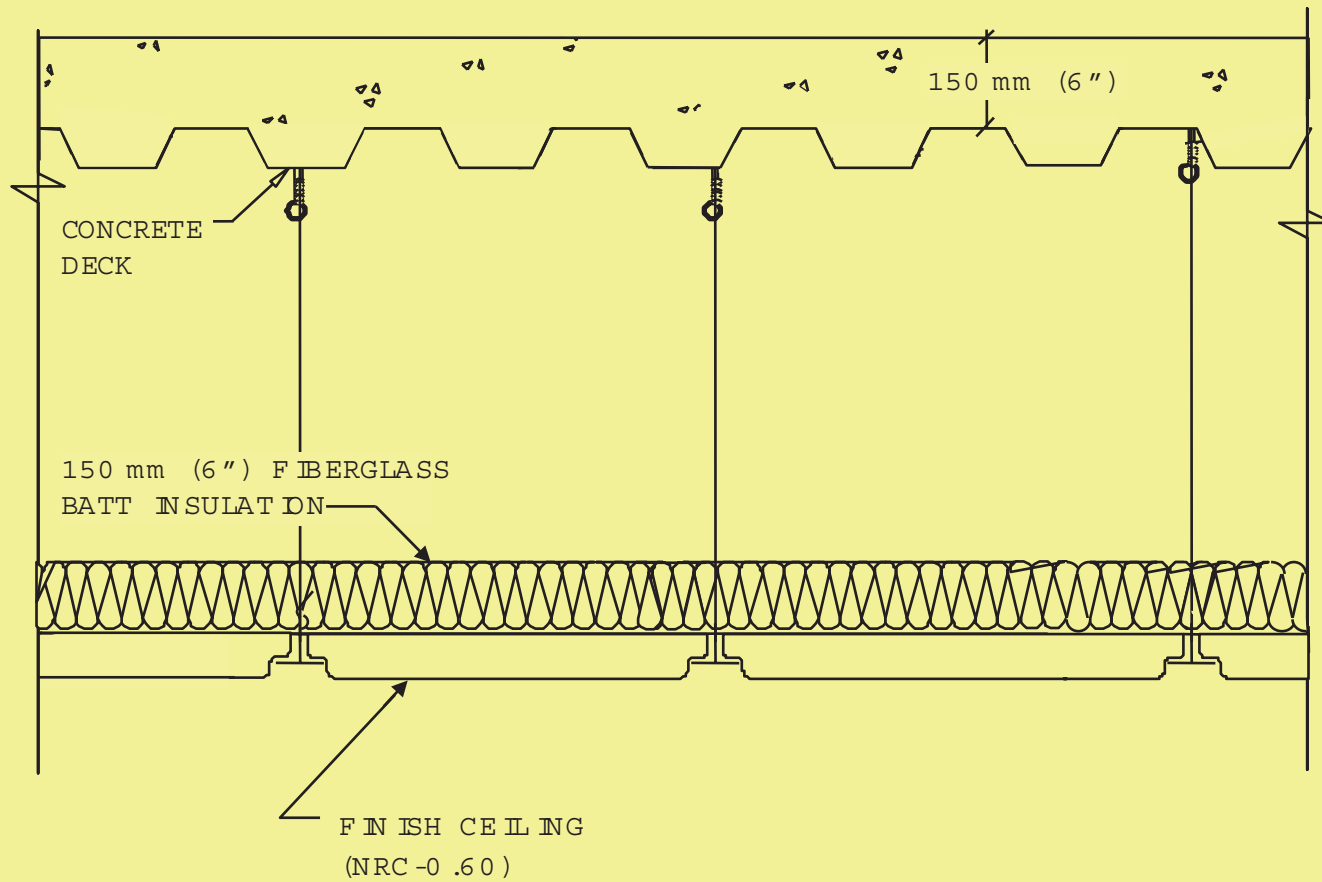


DISCONTINUOUS ROOF SYSTEM AT DEMISING WALL

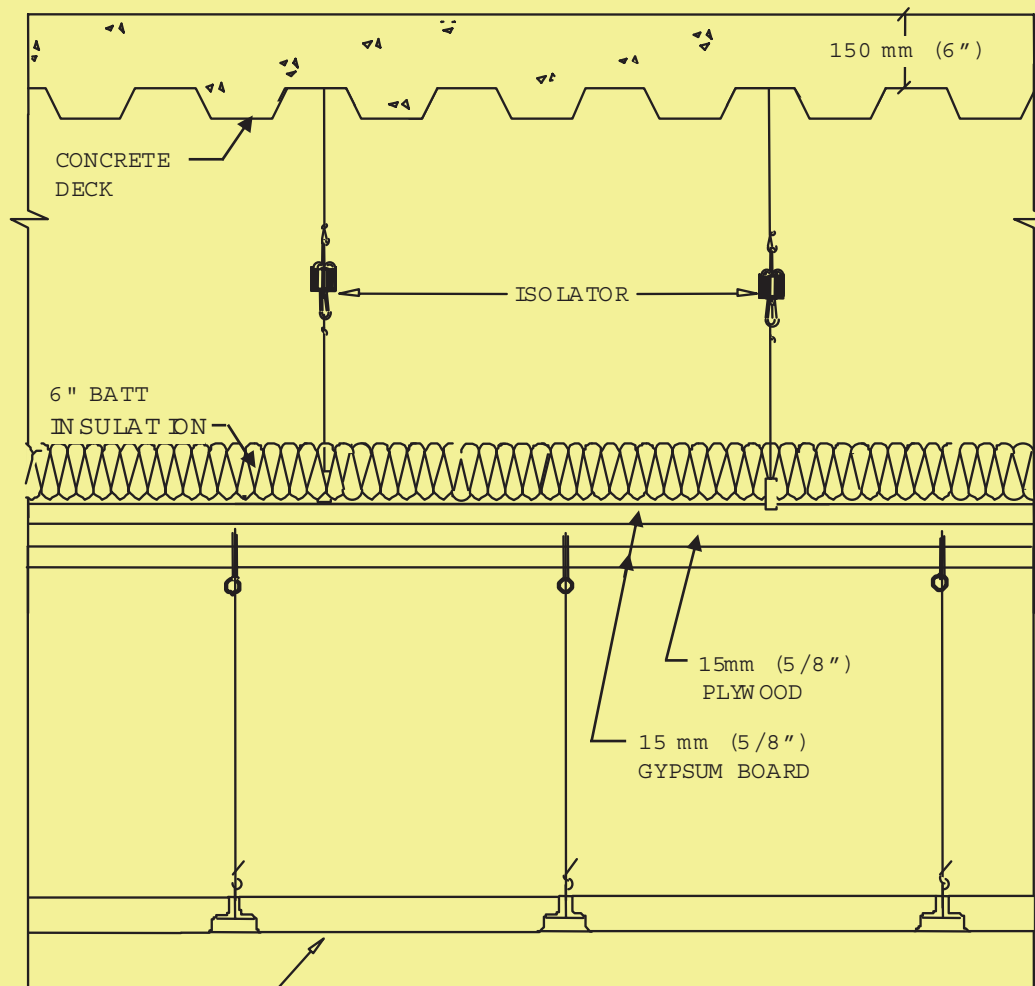


VERTICAL SOUND ISOLATION



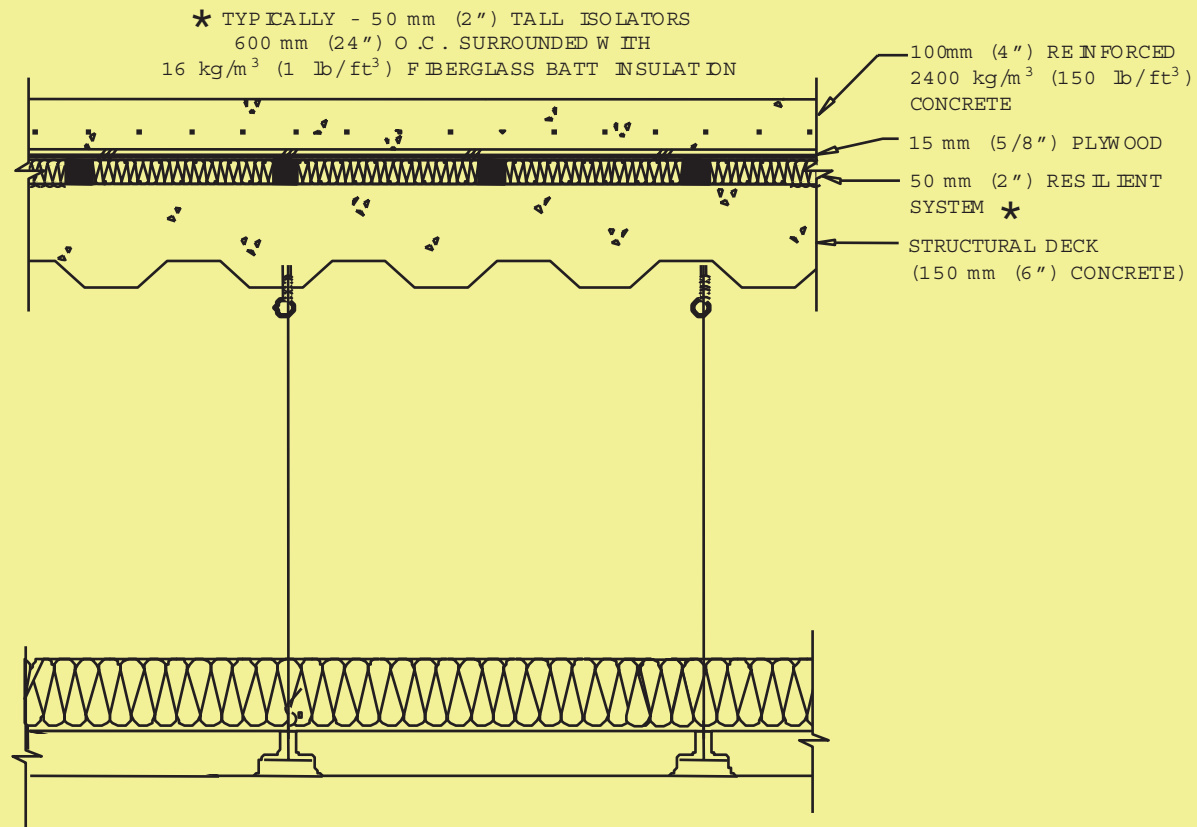


CONCRETE FLOOR DECK
WITH
ACOUSTICAL TILE CEILING

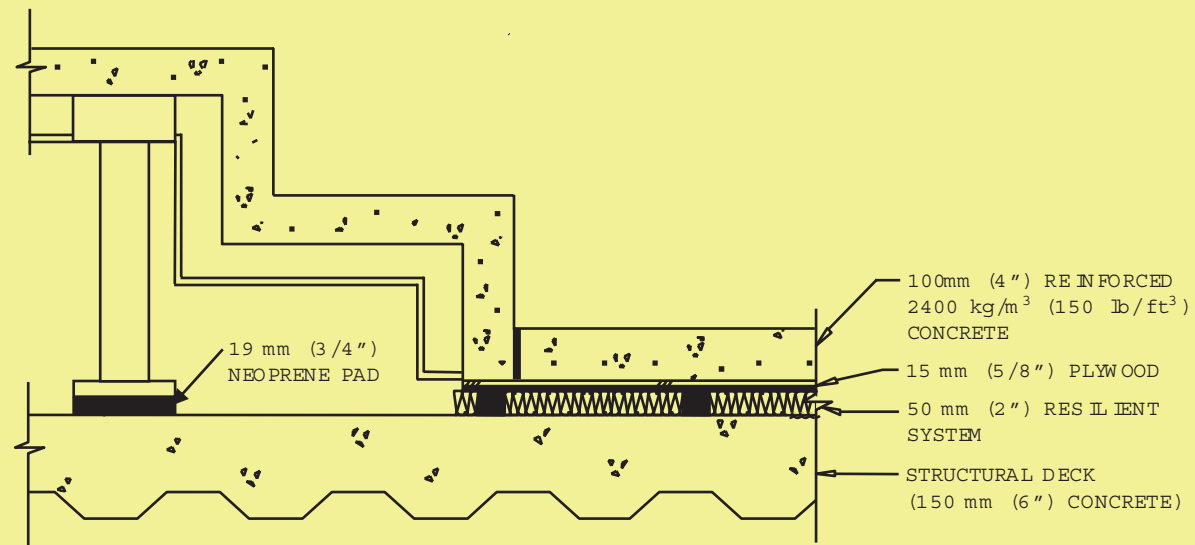


FINISH CEILING
(NRC-0.60)

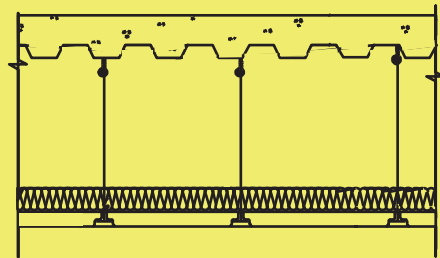
CONCRETE FLOOR DECK WITH
RESILIENTLY SUSPENDED
CEILING



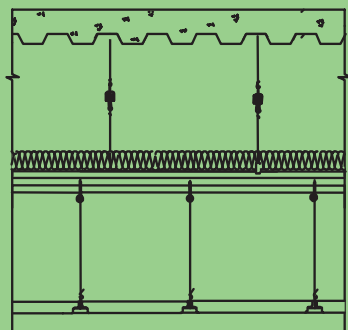
CONCRETE FLOATING FLOOR



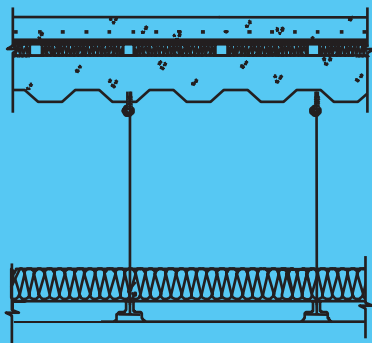
CONCRETE FLOATING FLOOR
WITH STADIUM SEATING



CONCRETE FLOOR DECK WITH
ACOUSTICAL TILE CEILING

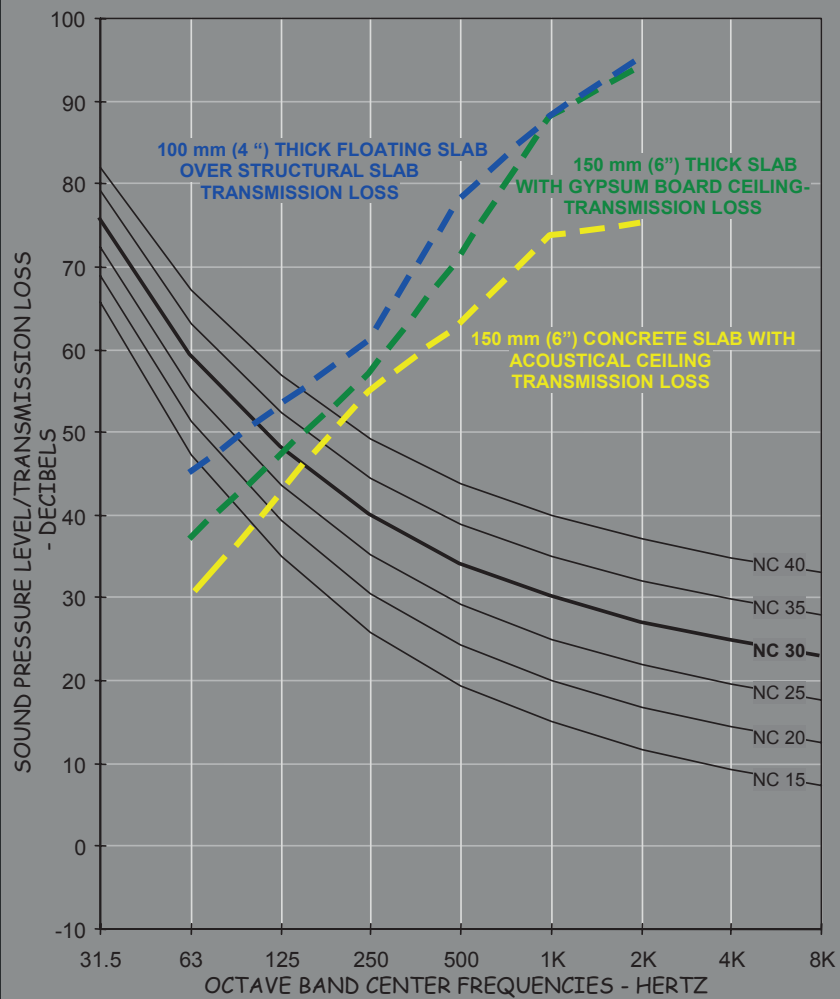


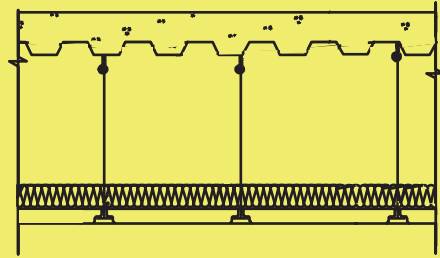
CONCRETE FLOOR DECK WITH
RESILIENT CEILING



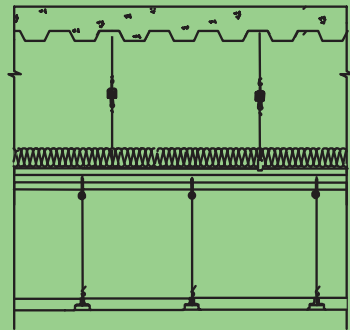
CONCRETE FLOATING FLOOR

CINEMA FLOOR/CEILING PERFORMANCE

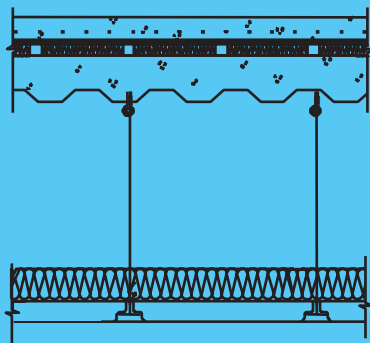




CONCRETE FLOOR DECK WITH
ACOUSTICAL TILE CEILING

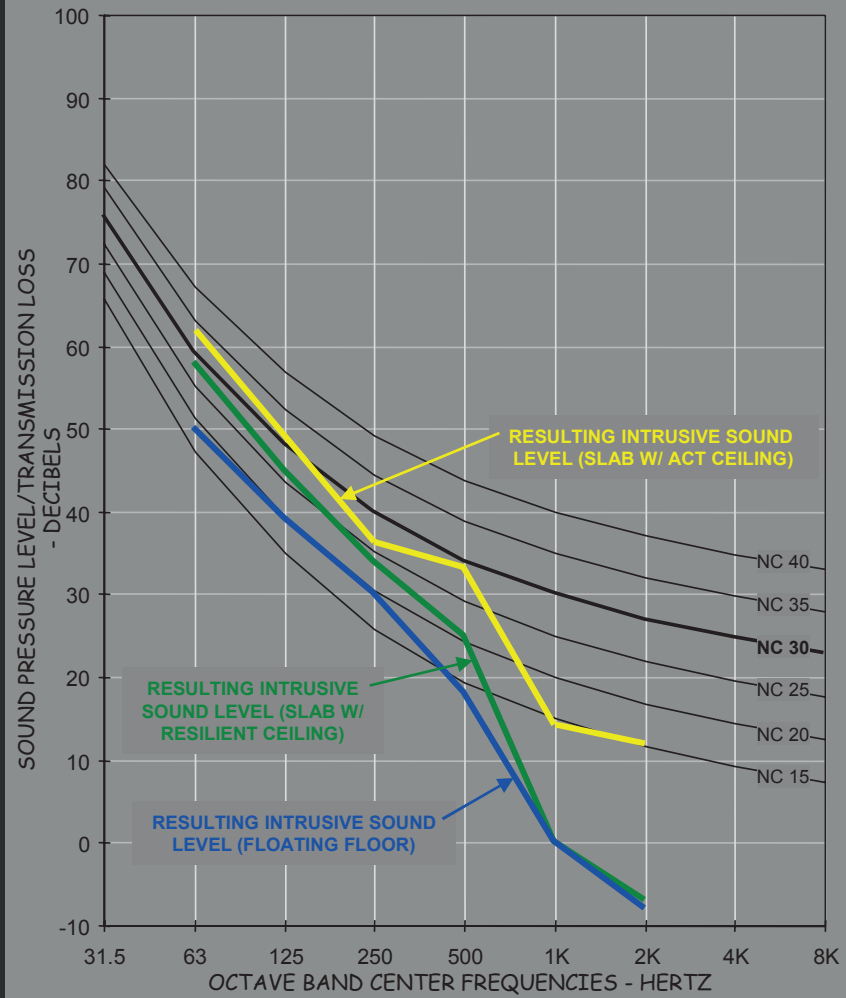


CONCRETE FLOOR DECK WITH
RESILIENT CEILING



CONCRETE FLOATING FLOOR

CINEMA FLOOR/CEILING PERFORMANCE



SUMMARY

- MEASURE SOUND LEVELS ON NOISY SITES
- DEFINE THE ACOUSTICAL CRITERIA
- SELECT INTER-CINEMA DOUBLE WALLS
- DON'T NEGLECT VERTICAL ISOLATION
- DON'T LOCATE CINEMAS DIRECTLY ADJACENT RESIDENCES

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