SOUND CONTROL SYSTEMS ON INTERIOR FLOORS
331F-SC-2019-2021

DETAIL B – THICK SYSTEM OVER PLYWOOD

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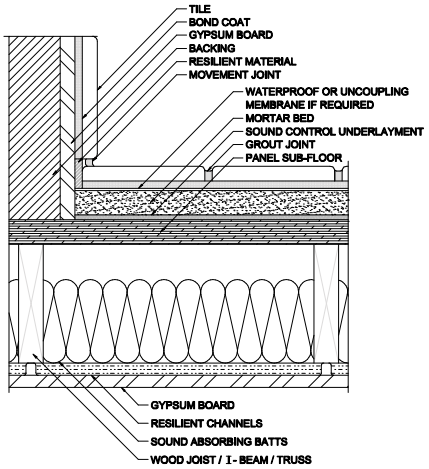

SUITABLE SUBSTRATES

- Provide a suitable rigid subfloor that is designed to support the maximum loading anticipated for the area to be tiled. Floor systems, including the framing system and subfloor panels, over which the tile will be installed shall be in conformance with the Canadian National Building Code 2015 and applicable local building codes taking into consideration anticipated live and dead loads.

MATERIALS

- SOUND REDUCTION MEMBRANE – as per manufacturer's recommendations. A wide range of resilient material can be used including crumbled rubber, cork, foam and other resilient materials.
- BOND COAT – Dry-set mortar (minimum acceptable standard ANSI A118.1 or ISO 13007 C1), latex-Portland cement mortar (minimum acceptable standard ANSI A118.4 or ISC 13007 C2), modified epoxy emulsion mortars or 100% solids epoxy mortar (minimum acceptable standard ANSI A118.3 or ISO 13007 R1).
- GROUT – Portland cement, latex-Portland cement (minimum acceptable standard ANSI A118.6 or ISC 13007 CG1) or epoxy (minimum acceptable standard ANSI A118.3 or ISO 13007 RG)), or RTU grout.
- GYPSUM BOARD – ASTM C36 Type X 15 mm-thick
- RESILIENT CHANNELS – 1 or 2 legged
- SOUND ABSORBENT BATT – fibreglass batt, natural cotton fibre or other
- ACCOUSTICAL SEALANT – ASTM C919

APPLICATION

- Apply sound reduction membrane following manufacturer's recommendations to provide complete coverage of the substrate
- Apply mortar bed (see Tile Guide Specification Section Mixes 2.9.2.5) to required thickness over fresh slurry bond coat (see Tile Guide Specification Section Mixes 2.9.2.2). Finished tolerance of mortar bed not to exceed 6 mm in 3000 mm or 2 mm in 300 mm.
- Use proper notched trowel to ensure adequate bond. With pressure, apply a coat of mortar by using the trowel's flat side to key the mortar into the substrate. Apply additional mortar, combing it in a single direction parallel to the tile's shortest dimension, with the trowel's notched side. Place the tiles firmly into the wet bond coat. Push the tiles back and forth in a direction perpendicular to trowel lines, to collapse the mortar ridges and to help achieve maximum coverage. Ensure proper contact between mortar, tile and substrate by periodically lifting a few tiles to check for acceptable coverage. Use sufficient bond coat to ensure minimum 80% contact to the back of the tile with back of tile. Remove excess mortar from the joint areas so that at least 2/3 of the tile depth is available for grouting. Allow bond coat to cure. Force grout into the joints with a rubber grout float. Make sure all joints are well-compacted and free of voids and gaps. Remove excess grout from the tile surface and clean. All perimeters must be recessed away from the walls and acoustic sealant or prefabricated movement joints must be applied.

LIMITATIONS

- Some products/systems cannot be used in commercial applications where heavy loads and carts will be used. A "Light Commercial" to "Heavy Commercial" rating utilizing ASTM C-627 should be required.
- This assembly will normally raise the floor from anywhere from 30 mm to 62.5 mm in height. Height restrictions should be evaluated. Use proper notched trowel to ensure adequate bond. With pressure, apply a coat of mortar by using the trowel's flat side to key the mortar into the substrate. Apply additional mortar, combing it in a single direction parallel to the tile's shortest dimension, with the trowel's notched side. Place the tiles firmly into the wet bond coat. Push the tiles back and forth in a direction perpendicular to trowel lines, to collapse the mortar ridges and to help achieve maximum coverage. Ensure proper contact between mortar, tile and substrate by periodically lifting a few tiles to check for acceptable coverage. Use sufficient bond coat to ensure minimum 80% contact to the back of the tile with back of tile. For tile with any edge longer than 380 mm use sufficient bond coat to ensure minimum 95% contact, with the corners and edges fully supported. Remove excess mortar from the joint areas so that at least 2/3 of the tile depth is available for grouting. Allow bond coat to cure. Force grout into the joints with a rubber grout float. Make sure all joints are well-compacted and free of voids and gaps. Remove excess grout from the tile surface and clean.

OTHER CONSIDERATIONS

- Sound reduction membranes are intended to minimize the transfer of sound from one room to the room below, it is however only part of the overall system. Substrates, flooring material, dropped ceiling assemblies, perimeter joints, etc., will all affect the overall values.
- Movement Joint (architect must specify type of joint and show location and details on drawings).
- Movement joints - mandatory according to Detail 301MJ-2019-2021.
- All systems must meet or exceed a “Residential Rating” with ASTM C627.
- Some systems require 2 layers of 15 mm type X Gypsum Ceiling.
- Refer to notes on “Sound Control Underlayment”.
- Ratings may vary from 48 IIC to approximately 58 IIC using ASTM E492 depending on product and other components in the system. This floor assembly has little or no effect on STC rating, normally this floor assembly will have an STC of 50 or more, when the appropriate sound rated wall detail is used.
- Detail 314F-C2 Modular Screed System Over Plywood can be used as alternative to a monolithic mortar bed.

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