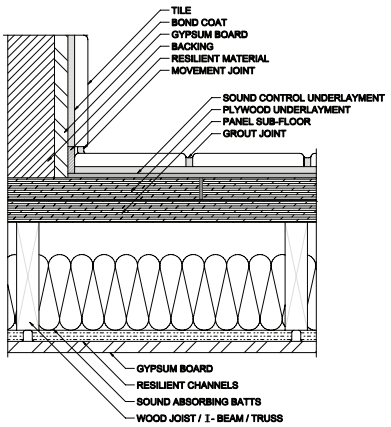
SOUND CONTROL SYSTEMS ON INTERIOR FLOORS
331F-SC-2012-2014

DETAIL A – THIN SYSTEM OVER PLYWOOD

A



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 2010 and applicable local building codes taking into consideration anticipated live and dead loads.

MATERIALS

- SOUND REDUCTION MEMBRANE – meets ANSI A 118.13 standard for Bonded Sound Reduction Membranes for Thin-set Ceramic Tile and Dimension Stone Installation. This standard applies to trowel applied, liquid and flexible sheet membranes.
- BOND COAT – Latex-Portland cement mortar (minimum acceptable standard ANSI A 118.4 or ISO C2), modified epoxy emulsion mortars or 100% solids epoxy mortar (minimum acceptable standard ANSI A 118.3 or ISO R1).
- GROUT – Portland cement, latex-Portland cement (minimum acceptable standard ANSI A 118.6 or ISC CG1) or epoxy (minimum acceptable standard ANSI A 118.3 or ISO RG).
- 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
- ACCOUNSTICAL SEALANT – ASTM C919.

APPLICATION

- Apply sound reduction membrane following manufacturer's recommendations to provide complete coverage of the substrate in the area on which the tile is to be installed. Install tile in accordance with ANSI A 108.5 Use sufficient bond-coat to ensure a minimum 95% contact.
- All perimeters must be recessed away from the walls and acoustic sealant or prefabricated movement joints must be applied Slide tile firmly into position while bond coat is wet and tacky. Force grout into full depth of tile joint. Remove excess grout and clean.

LIMITATIONS

- Some systems may require epoxy grout and/or epoxy bond-coat.
- 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 C627 should be required.

OTHER CONSIDERATIONS

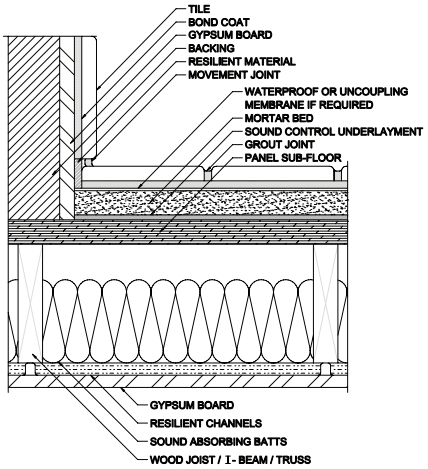
- Sound reduction membranes are intended to minimize the transfer of sound from one room to the room below, it is however only part of the overall system. Substrates, flooring material, dropped ceiling assemblies, perimeter joints, etc.,will all affect the overall values.
- Movement Joint (architect must specify type of joint and show location and details on drawings)
- Movement joints - mandatory according to Detail 301MJ-2012-2014.
- 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 46 IIC to approximately 54 IIC using ASTM E-492 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.

Continued

SOUND CONTROL SYSTEMS ON INTERIOR FLOORS
331F-SC-2012-2014

DETAIL B – THICK SYSTEM OVER PLYWOOD

B



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 2010 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 A 118.1 or ISO C1), latex-Portland cement mortar (minimum acceptable standard ANSI A 118.4 or ISC C2), modified epoxy emulsion mortars or 100% solids epoxy mortar (minimum acceptable standard ANSI A 118.3 or ISO R1).
- GROUT – Portland cement, latex-Portland cement (minimum acceptable standard ANSI A 118.6 or ISC CG1) or epoxy (minimum acceptable standard ANSI A 118.3 or ISO RG).
- 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 2.5.5) to required thickness over fresh slurry bond coat (see Tile Guide Specification Section Mixes 2.5.2). Finished tolerance of mortar bed not to exceed 6 mm in 3000 mm or 2 mm in 300 mm
- Install tile in accordance with ANSI A 108.5 Use sufficient bond-coat to ensure a minimum 95% contact.
- All perimeters must be recessed away from the walls and acoustic sealant or prefabricated movement joints must be applied Slide tile firmly into position while bond coat is wet and tacky. Force grout into full depth of tile joint. Remove excess grout and clean.

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.

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-2012-2014.
- All systems must meet or exceed a "Residential Rating" with ASTM C-627.
- 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 E-492 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.

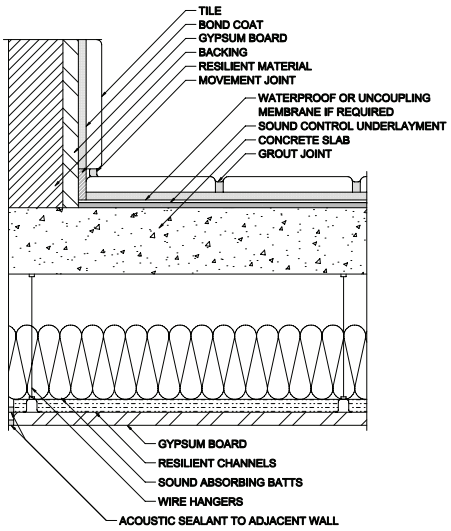
Continued

SOUND CONTROL SYSTEMS ON INTERIOR FLOORS
331F-SC-2012-2014

DETAIL C – THIN SYSTEM ON CONCRETE WITH DROPPED CEILING

MATERIALS
- SOUND REDUCTION MEMBRANE – meets ANSI A 118.13 standard for Bonded Sound Reduction Membranes for Thin-set Ceramic Tile and Dimension Stone Installation. This standard applies to trowel applied, liquid and flexible sheet membranes.
- BOND COAT – Dry-set mortar (minimum acceptable standard ANSI A 118.1 or ISO C1), latex-Portland cement mortar (minimum acceptable standard ANSI A 118.4 or ISC C2), modified epoxy emulsion mortars or 100% solids epoxy mortar (minimum acceptable standard ANSI A 118.3 or ISO R1).
- GROUT – Portland cement, latex-Portland cement (minimum acceptable standard ANSI A 118.6 or ISC CG1) or epoxy (minimum acceptable standard ANSI A 118.3 or ISO RG).
- GYPSUM BOARD – ASTM C36 Type X 15 mm thick
- RESILIENT CHANNELS – 1 or 2 legged
- SOUND ABSORBANT BATT – Fibreglass batt, natural cotton fibre or other
- ACCOUSTICAL SEALANT – ASTM C919.

C



APPLICATION
- Apply sound reduction membrane following manufacturer's recommendations to provide complete coverage of the substrate in the area on which the tile is to be installed. Install tile in accordance with ANSI A 108.5 Use sufficient bond-coat to ensure a minimum 95% contact.
- All perimeters must be recessed away from the walls and acoustic sealant or prefabricated movement joints must be applied Slide tile firmly into position while bond coat is wet and tacky. Force grout into full depth of tile joint. Remove excess grout and clean.

LIMITATIONS
- Some systems may require epoxy grout and/or epoxy bond-coat.
- 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.

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-2012-2014.
- 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" Boards.
- Ratings may vary from 64 IIC to approximately 68 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.
- Request for test results for ASTM E-2179-03 from manufacturer to determine contribution on a concrete slab. Product specified should have a contribution (Δ) IIC rating of 10 or greater.

Continued

SOUND CONTROL SYSTEMS ON INTERIOR FLOORS
331F-SC-2012-2014

DETAIL D – THICK SYSTEM ON CONCRETE WITH DROPPED CEILING

SUITABLE SUBSTRATES
- Interior concrete slabs. Floor systems over which the tile is installed shall be in conformance with the Canadian National Building Code 2010 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 A 118.1 or ISO C1), latex-Portland cement mortar (minimum acceptable standard ANSI A 118.4 or ISC C2), modified epoxy emulsion mortars or 100% solids epoxy mortar (minimum acceptable standard ANSI A 118.3 or ISO R1).
- GROUT – Portland cement, latex-Portland cement (minimum acceptable standard ANSI A 118.6 or ISC CG1) or epoxy (minimum acceptable standard ANSI A 118.3 or ISO RG).
- GYPSUM BOARD – ASTM C36 Type X 15 mm thick
- RESILIENT CHANNELS – 1 or 2 legged
- SOUND ABSORBANT BATT – Fibreglass batt, natural cotton fibre or other
- ACCOUSTIC SEALANT – ASTM C919

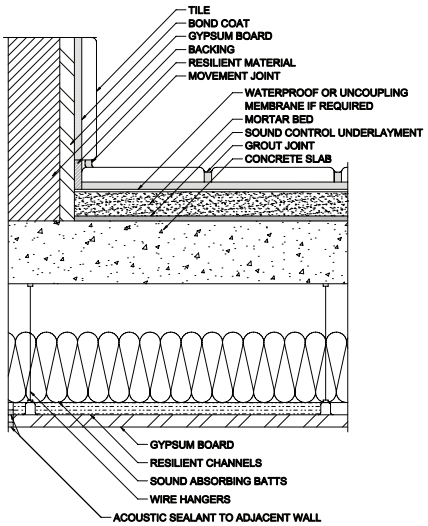
APPLICATION
- Apply sound reduction membrane following manufacturer's recommendations to provide complete coverage of the substrate
- Apply mortar bed (see Tile Guide Specification Section Mixes 2.5.5) to required thickness over fresh slurry bond coat (see Tile Guide Specification Section Mixes 2.5.2). Finished tolerance of mortar bed not to exceed 6 mm in 3000 mm or 2 mm in 300 mm
- Install tile in accordance with ANSI A 108.5 Use sufficient bond-coat to ensure a minimum 95% contact.
- All perimeters must be recessed away from the walls and acoustic sealant or prefabricated movement joints must be applied Slide tile firmly into position while bond coat is wet and tacky. Force grout into full depth of tile joint. Remove excess grout and clean.

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 C627 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.

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-2012-2014.
- 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"Boards
- Ratings may vary from 65 IIC to approximately 70 IIC using ASTM E-492
- 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.
- Request for test results for ASTM E-2179-03 from manufacturer to determine contribution on a concrete slab. Product specified should have a contribution (Δ) IIC rating of 10 or greater
- Detail 314F-G Modular Screed System on concrete can be used as alternative to a monolithic mortar bed

Continued

D



SOUND CONTROL SYSTEMS ON INTERIOR FLOORS
331F-SC-2012-2014

DETAIL E – THIN SYSTEM ON CONCRETE NO DROPPED CEILING

MATERIALS

- SOUND REDUCTION MEMBRANE – meets ANSI A 118.13 standard for Bonded Sound Reduction Membranes for Thin-set Ceramic Tile and Dimension Stone Installation. This standard applies to trowel applied, liquid and flexible sheet membranes.
- BOND COAT – Dry-set mortar (minimum acceptable standard ANSI A 118.1 or ISO C1), latex-Portland cement mortar (minimum acceptable standard ANSI A 118.4 or ISC C2), modified epoxy emulsion mortars or 100% solids epoxy mortar (minimum acceptable standard ANSI A 118.3 or ISO R1).
- GROUT – Portland cement, latex-Portland cement (minimum acceptable standard ANSI A 118.6 or ISC CG1) or epoxy (minimum acceptable standard ANSI A 118.3 or ISO RG).

APPLICATION

- Apply sound reduction membrane following manufacturer's recommendations to provide complete coverage of the substrate in the area on which the tile is to be installed. Install tile in accordance with ANSI A 108.5 Use sufficient bond-coat to ensure a minimum 95% contact.
- All perimeters must be recessed away from the walls and acoustic sealant or prefabricated movement joints must be applied Slide tile firmly into position while bond coat is wet and tacky. Force grout into full depth of tile joint. Remove excess grout and clean.

LIMITATIONS

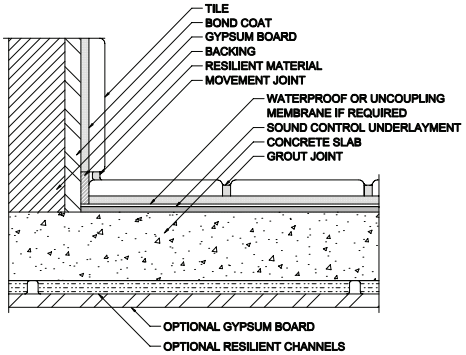
- Some systems may require epoxy grout and/or epoxy bond-coat.
- Some products/systems cannot be used in commercial applications where heavy loads and carts will be used. A "Light Commercial" to "Heavy Commercial" rating utilizing ASTM C627 should be required.

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-2012-2014.
- All systems must meet or exceed a "Residential Rating" with ASTM C-627-99
- Some systems require 2 layers of 15 mm type X Gypsum Ceiling
- Refer to notes on "Sound Control Underlayment"Boards
- Ratings may vary from 35 IIC to approximately 52 IIC using ASTM E-492 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.
- Request for test results for ASTM E-2179-03 from manufacturer to determine contribution on a concrete slab. Product specified should have a contribution (Δ) IIC rating of 20 or greater. A bare concrete slab 150 mm thick with no ceiling panels will have approximately an IIC of 28. Alternatively, a concrete slab 200 mm thick with no ceiling panels will have approximately an IIC of 32.

Continued

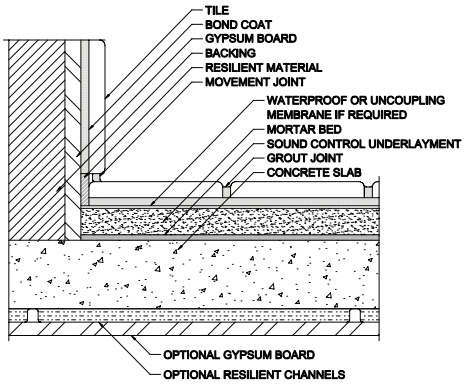
E



SOUND CONTROL SYSTEMS ON INTERIOR FLOORS
331F-SC-2012-2014

DETAIL F – THICK SYSTEM ON CONCRETE NO DROPPED CEILING

F



SUITABLE SUBSTRATES

- Interior concrete slabs. Floor systems over which the tile is installed shall be in conformance with the Canadian National Building Code 2010 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 or resilient material can be used including crumbled rubber, cork, foam and other resilient materials.
- BOND COAT - Dry-set mortar (minimum acceptable standard ANSI A 118.1 or ISO C1), latex-Portland cement mortar (minimum acceptable standard ANSI A 118.4 or ISO C2), modified epoxy emulsion mortars or 100% solids epoxy mortar (minimum acceptable standard ANSI A 118.3 or ISO R1).
- GROUT – Portland cement, latex-Portland cement (minimum acceptable standard ANSI A 118.6 or ISC CG1) or epoxy (minimum acceptable standard ANSI A 118.3 or ISO RG).

APPLICATION

- Apply sound reduction membrane following manufacturer's recommendations to provide complete coverage of the substrate in the area on which the tile is to be installed. Install tile in accordance with ANSI A 108.5 Use sufficient bond-coat to ensure a minimum 95% contact.
- All perimeters must be recessed away from the walls and acoustic sealant or prefabricated movement joints must be applied Slide tile firmly into position while bond coat is wet and tacky. Force grout into full depth of tile joint. Remove excess grout and clean.

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 C627 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..

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-2012-2014.
- 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 40 IIC to approximately 60 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.
- Request for test results for ASTM E2179 from manufacturer to determine contribution on a concrete slab. Product specifi ed should have a contribution (Δ) IIC rating of 20 or greater. A bare concrete slab 150 mm thick with no ceiling panels will have approximately an IIC of 28. Alternatively, a concrete slab 200 mm thick with no ceiling panels will have approximately an IIC of 32.
- Detail 314F-G Modular Screed System on concrete can be used as alternative to a monolithic mortar bed.

Continued