

CEILING ASSEMBLIES

CEILING BELOW ATTICS (COMMUNICATING)

AS PER BSC 8.36 LATEST REVISION WITH NO HEAT RECOVERY VENTILATOR

DESCRIPTION	NOMINAL	EFFECTIVE
25MM (1") GLASSFIBRE LOOSE FILL INSULATION FOR ATTICS 24" BOTTOM	RSI 7.04 (R-40)	RSI 6.67 (R-37.5)
OTHER BUILDING ENCLOSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION		
(1) EXTERIOR AIR FILM	0.03	
(2) ROOFING & SPALM SHIMMERS	0.11	
(3) 1/2" POLYETHYLENE SHEATHING	—	
(4) 1/2" GYPSUM CEILING BOARD	0.096	
(5) 1/2" GYPSUM WALL BOARD	0.12	
TOTAL EFFECTIVE INSULATION VALUE	RSI 7.01 (R-39.0)	
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR CEILINGS BELOW ATTICS	RSI 4.61 (R-26.2)	
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR CEILINGS BELOW ATTICS	RSI 4.61 (R-26.2)	

CEILING BELOW CATHEDRAL & PLATE ROOFS

AS PER BSC 8.36 LATEST REVISION WITH NO HEAT RECOVERY VENTILATOR

DESCRIPTION	NOMINAL	EFFECTIVE
R-20 BATT INSULATION IN 2x12 WOOD FRAMING AT 24" O.C.	RSI 4.69 (R-26)	RSI 4.47 (R-24.2)
OTHER BUILDING ENCLOSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION		
(1) EXTERIOR AIR FILM	0.03	
(2) ROOFING & SPALM SHIMMERS	0.11	
(3) 1/2" POLYETHYLENE SHEATHING	—	
(4) 1/2" GYPSUM CEILING BOARD	0.096	
(5) 1/2" GYPSUM WALL BOARD	0.12	
TOTAL EFFECTIVE INSULATION VALUE	RSI 4.61 (R-24.2)	
MINIMUM EFFECTIVE THERMAL RESISTANCE	RSI 4.61 (R-26.2)	
MINIMUM EFFECTIVE THERMAL RESISTANCE	RSI 4.61 (R-26.2)	

FLOOR ASSEMBLIES

FLOOR OVER UNHEATED SPACES (WOOD FLOORING)

AS PER BSC 8.36 LATEST REVISION WITH NO HEAT RECOVERY VENTILATOR

DESCRIPTION	NOMINAL	EFFECTIVE
R-20 BATT INSULATION IN 2x10 WOOD FRAMING AT 12" O.C.	RSI 4.69 (R-26)	RSI 4.47 (R-24.2)
OTHER BUILDING ENCLOSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION		
(1) EXTERIOR AIR FILM	0.03	
(2) ROOFING & SPALM SHIMMERS	0.11	
(3) 1/2" PLYWOOD ROOF SHEATHING	0.11	
(4) POLYETHYLENE	—	
(5) 1/2" GYPSUM CEILING BOARD	0.096	
(6) 1/2" GYPSUM WALL BOARD	0.12	
TOTAL EFFECTIVE INSULATION VALUE	RSI 4.61 (R-24.2)	
MINIMUM EFFECTIVE THERMAL RESISTANCE	RSI 4.61 (R-26.2)	
MINIMUM EFFECTIVE THERMAL RESISTANCE	RSI 4.61 (R-26.2)	

FLOOR OVER UNHEATED SPACES (CERAMIC TILE FLOORING)

AS PER BSC 8.36 LATEST REVISION WITH NO HEAT RECOVERY VENTILATOR

DESCRIPTION	NOMINAL	EFFECTIVE
R-20 BATT INSULATION IN 2x10 WOOD FRAMING AT 12" O.C.	RSI 4.69 (R-26)	RSI 4.47 (R-24.2)
OTHER BUILDING ENCLOSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION		
(1) EXTERIOR AIR FILM	0.03	
(2) ROOFING & SPALM SHIMMERS	0.11	
(3) 1/2" PLYWOOD ROOF SHEATHING	0.11	
(4) POLYETHYLENE	—	
(5) 1/2" GYPSUM CEILING BOARD	0.096	
(6) 1/2" GYPSUM WALL BOARD	0.12	
TOTAL EFFECTIVE INSULATION VALUE	RSI 4.61 (R-24.2)	
MINIMUM EFFECTIVE THERMAL RESISTANCE	RSI 4.61 (R-26.2)	
MINIMUM EFFECTIVE THERMAL RESISTANCE	RSI 4.61 (R-26.2)	

9.36.2.5 BLDG ENVELOPE - CONT. OF INSULATION

NOTES PERTAINING TO LEAKAGE PATHS IN PROBLEMATIC AREAS AS FOLLOWS:

SLAB ON GRADE / FOUNDATION TO SLAB PLATE & PILOTS

THE FLOOR SLAB AIR BARRIER MUST BE MADE AIRTIGHT SEALING THE FLOOR SLAB TO THE FOUNDATION WALL. ALL JOINTS AT THE INTERFACE BETWEEN THE SLAB AND THE FOUNDATION WALL MUST BE MADE AIRTIGHT BY SEALING ALL JOINTS AND JUNCTIONS BETWEEN THE STRUCTURAL COMPONENTS OR COVERING THE STRUCTURAL COMPONENTS WITH AN AIR BARRIER MATERIAL.

INTERIOR WALL INTERFACE

THE INTERFACE BETWEEN EXTERIOR WALLS OR CEILINGS WITH AN INTERIOR PLANE OF AIRTIGHTNESS MUST BE MADE AIRTIGHT BY OTHER SEALING ALL JUNCTONS BETWEEN THE STRUCTURAL COMPONENTS COVERING THE STRUCTURAL COMPONENTS WITH AN AIR BARRIER MATERIAL.

CAINT EVER FLOOR

THE INTERFACE BETWEEN UNHEATED SPACES EXTERIOR SPACE MUST BE MADE AIRTIGHT BY SEALING ALL JOINTS AND JUNCTIONS BETWEEN THE STRUCTURAL COMPONENTS AND/OR COVERING THE STRUCTURAL COMPONENTS WITH AN AIR BARRIER MATERIAL.

MECHANICAL PLATES AND CHIMNEYS

STEELINED CHIMNEYS THAT PENETRATE THE BUILDING ENVELOPE MUST BE MADE AIRTIGHT BY BLOCKING THE VOID WHEN REQUIRED TO PREVENT CONDENSATION AND SURROUNDING CONSTRUCTION WITH SHEET METAL AND SEALANT CAPABLE OF WITHSTANDING HIGH TEMPERATURES.

PLUMBING STACKS

PLUMBING STACKS THAT PENETRATE THE BUILDING ENVELOPE MUST BE MADE AIRTIGHT BY SEALING THE AIR BARRIER MATERIAL TO THE VENT STACK PIPE WITH A COMPATIBLE MATERIAL OR SHEATHING TAPE, OR INSTALLING A RUBBER GASKET OR PRE-FABRICATED ROOF FLASHING AT THE PENETRATION OF THE PLANE OF AIRTIGHTNESS AND SEALING TO THE TOP PLATE.

FENSTON

THE INTERFACE BETWEEN THE WINDOW HEADJAMM AND WALL ASSEMBLY MUST BE MADE AIRTIGHT BY SEALING ALL JOINTS AND JUNCTIONS BETWEEN THE AIR BARRIER MATERIAL IN THE WALL AND THE WINDOW.

ATTIC HATCHES

ATTIC HATCHES OCCURS THROUGH THE JOINTS WHERE THE HATCH HAS TO MOVE TO OPEN AND CLOSE. THE HATCH MUST BE MADE AIRTIGHT BY SEALING THE JOINTS WHERE THE HATCH IS SIGNED PROPERLY SO THAT IT HAS ENOUGH CONTACT WITH THE OPENING EDGE AND PROVIDING A CLOSED CELL FOAM GASKET.

DUCTS

RECEIVING DUCTS/OUTGOING DUCTS ARE ONE OF THE MOST COMMON UNLEAKAGE POINTS THROUGH THE COUPLING PLATE INTO THE ATTIC. AIR LEAKAGE OCCURS BETWEEN THE HOPING AND AIR BARRIER THROUGH THE FUTURE HOPING HOLES AND ITS ELECTRICAL CONNECTIONS. INSTALLING BOXES AROUND THE POT LIGHTS WHICH ARE SEALED TO THE AIR BARRIER IS AN EFFECTIVE WAY TO DEAL WITH THIS ISSUE.

ALL JOINTS AT THE TRANSITION BETWEEN THE ABOVE GRADE WALL AND CEILING MUST BE MADE AIRTIGHT BY SEALING ALL JOINTS AND JUNCTIONS BETWEEN THE STRUCTURAL COMPONENTS AND/OR COVERING THE STRUCTURAL COMPONENTS WITH AN AIR BARRIER MATERIAL.

DUCT PENETRATIONS

DUCT PENETRATIONS THROUGH THE BUILDING ENVELOPE MUST HAVE AN AIRTIGHT SEAL.

ELECTRICAL CABLES AND OUTLETS

ELECTRICAL CABLES AND OUTLETS INCLUDING ELECTRICAL OUTLETS, WIRING, SWITCHES AND RECESSED LIGHT FIXTURES THROUGH THE PLANE OF AIRTIGHTNESS MUST BE AIRTIGHT, OPTIONS INCLUDE A COMPONENT THAT IS DESIGNED TO BE AIRTIGHT AND SEALING IT TO THE AIR BARRIER MATERIAL, OR BY COVERING THE COMPONENT WITH AN AIR BARRIER MATERIAL AND SEALING TO THE ADJACENT AIR BARRIER MATERIAL.



Inderveer Khunkhun
info@arcadiadesignsinc.com
778-829-3094

Transforming Visions to
Architectural Masterpieces

THE DESIGNER ASSUMED NO LIABILITY FOR ANY ERRORS OR OMISSIONS IN THESE PLANS. IT IS THE BUILDER/OWNER'S RESPONSIBILITY TO REVIEW AND VERIFY ALL LEVELS, DIMENSIONS, AND STANDARD CONVENTIONS PRIOR TO CONSTRUCTION.

No.	Description	Date
1	ISSUED FOR REVIEW/PERMIT	X-XX-2022

ABOVE GRADE WALL ASSEMBLIES

ABOVE GRADE WALL ASSEMBLY (V4.5mm (1/8") CEMENT BOARD SKIN)

AS PER BSC 8.36 LATEST REVISION WITH NO HEAT RECOVERY VENTILATOR

DESCRIPTION	NOMINAL	EFFECTIVE
R-20 BATT INSULATION IN 2x6 WOOD FRAMING AT 16" O.C.	RSI 3.34 (R-19)	RSI 2.94 (R-14)
OTHER BUILDING ENCLOSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION		
(1) EXTERIOR AIR FILM	0.03	
(2) STONE, GROUT & SETTING (OR SANDSTONE)	0.009	
(3) SCRATCH & SETTING CEMENT BED	—	
(4) LATH & MESH	—	
(5) 1/2" AIR SPACE FOR RAIN SCREEN	0.16	
(6) SHEATHING MEMBRANE	—	
(7) 1/2" GYPSUM WALL BOARD	0.09	
(8) POLYETHYLENE	—	
(9) 1/2" GYPSUM CEILING BOARD	0.08	
(10) EXTERIOR AIR FILM	0.12	
TOTAL EFFECTIVE INSULATION VALUE	RSI 2.93 (R-14.04)	
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR ABOVE GRADE WALLS	RSI 2.78 (R-15.78)	
MINIMUM EFFECTIVE THERMAL RESISTANCE	RSI 2.78 (R-15.78)	

ABOVE GRADE WALL ASSEMBLY (V4.5mm (1/8") CEMENT BOARD SKIN)

AS PER BSC 8.36 LATEST REVISION WITH NO HEAT RECOVERY VENTILATOR

DESCRIPTION	NOMINAL	EFFECTIVE
R-20 BATT INSULATION IN 2x6 WOOD FRAMING AT 16" O.C.	RSI 3.34 (R-19)	RSI 2.94 (R-14)
OTHER BUILDING ENCLOSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION		
(1) EXTERIOR AIR FILM	0.03	
(2) STONE, GROUT & SETTING (OR SANDSTONE)	0.009	
(3) SCRATCH & SETTING CEMENT BED	—	
(4) LATH & MESH	—	
(5) 1/2" AIR SPACE FOR RAIN SCREEN	0.16	
(6) SHEATHING MEMBRANE	—	
(7) 1/2" GYPSUM WALL BOARD	0.09	
(8) POLYETHYLENE	—	
(9) 1/2" GYPSUM CEILING BOARD	0.08	
(10) EXTERIOR AIR FILM	0.12	
TOTAL EFFECTIVE INSULATION VALUE	RSI 2.93 (R-14.04)	
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR ABOVE GRADE WALLS	RSI 2.78 (R-15.78)	
MINIMUM EFFECTIVE THERMAL RESISTANCE	RSI 2.78 (R-15.78)	

ABOVE GRADE WALL ASSEMBLY (V4.5mm (1/8") CEMENT BOARD SKIN)

AS PER BSC 8.36 LATEST REVISION WITH NO HEAT RECOVERY VENTILATOR

DESCRIPTION	NOMINAL	EFFECTIVE
R-20 BATT INSULATION IN 2x6 WOOD FRAMING AT 16" O.C.	RSI 3.34 (R-19)	RSI 2.94 (R-14)
OTHER BUILDING ENCLOSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION		
(1) EXTERIOR AIR FILM	0.03	
(2) STONE, GROUT & SETTING (OR SANDSTONE)	0.009	
(3) SCRATCH & SETTING CEMENT BED	—	
(4) LATH & MESH	—	
(5) 1/2" AIR SPACE FOR RAIN SCREEN	0.16	
(6) SHEATHING MEMBRANE	—	
(7) 1/2" GYPSUM WALL BOARD	0.09	
(8) POLYETHYLENE	—	
(9) 1/2" GYPSUM CEILING BOARD	0.08	
(10) EXTERIOR AIR FILM	0.12	
TOTAL EFFECTIVE INSULATION VALUE	RSI 2.93 (R-14.04)	
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR ABOVE GRADE WALLS	RSI 2.78 (R-15.78)	
MINIMUM EFFECTIVE THERMAL RESISTANCE	RSI 2.78 (R-15.78)	

ABOVE GRADE WALL ASSEMBLY (V4.5mm (1/8") CEMENT BOARD SKIN)

AS PER BSC 8.36 LATEST REVISION WITH NO HEAT RECOVERY VENTILATOR

DESCRIPTION	NOMINAL	EFFECTIVE
R-20 BATT INSULATION IN 2x6 WOOD FRAMING AT 16" O.C.	RSI 3.34 (R-19)	RSI 2.94 (R-14)
OTHER BUILDING ENCLOSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION		
(1) EXTERIOR AIR FILM	0.03	
(2) STONE, GROUT & SETTING (OR SANDSTONE)	0.009	
(3) SCRATCH & SETTING CEMENT BED	—	
(4) LATH & MESH	—	
(5) 1/2" AIR SPACE FOR RAIN SCREEN	0.16	
(6) SHEATHING MEMBRANE	—	
(7) 1/2" GYPSUM WALL BOARD	0.09	
(8) POLYETHYLENE	—	
(9) 1/2" GYPSUM CEILING BOARD	0.08	
(10) EXTERIOR AIR FILM	0.12	
TOTAL EFFECTIVE INSULATION VALUE	RSI 2.93 (R-14.04)	
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR ABOVE GRADE WALLS	RSI 2.78 (R-15.78)	
MINIMUM EFFECTIVE THERMAL RESISTANCE	RSI 2.78 (R-15.78)	

ABOVE GRADE WALL ASSEMBLY (V4.5mm (1/8") CEMENT BOARD SKIN)

AS PER BSC 8.36 LATEST REVISION WITH NO HEAT RECOVERY VENTILATOR

DESCRIPTION	NOMINAL	EFFECTIVE
R-20 BATT INSULATION IN 2x6 WOOD FRAMING AT 16" O.C.	RSI 3.34 (R-19)	RSI 2.94 (R-14)
OTHER BUILDING ENCLOSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION		
(1) EXTERIOR AIR FILM	0.03	
(2) STONE, GROUT & SETTING (OR SANDSTONE)	0.009	
(3) SCRATCH & SETTING CEMENT BED	—	
(4) LATH & MESH	—	
(5) 1/2" AIR SPACE FOR RAIN SCREEN	0.16	
(6) SHEATHING MEMBRANE	—	
(7) 1/2" GYPSUM WALL BOARD	0.09	
(8) POLYETHYLENE	—	
(9) 1/2" GYPSUM CEILING BOARD	0.08	
(10) EXTERIOR AIR FILM	0.12	
TOTAL EFFECTIVE INSULATION VALUE	RSI 2.93 (R-14.04)	
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR ABOVE GRADE WALLS	RSI 2.78 (R-15.78)	
MINIMUM EFFECTIVE THERMAL RESISTANCE	RSI 2.78 (R-15.78)	

ABOVE GRADE WALL ASSEMBLY (V4.5mm (1/8") CEMENT BOARD SKIN)

AS PER BSC 8.36 LATEST REVISION WITH NO HEAT RECOVERY VENTILATOR

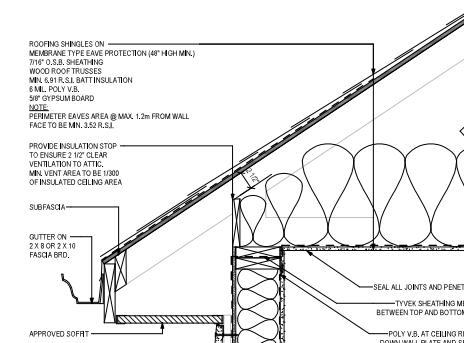
DESCRIPTION	NOMINAL	EFFECTIVE
R-20 BATT INSULATION IN 2x6 WOOD FRAMING AT 16" O.C.	RSI 3.34 (R-19)	RSI 2.94 (R-14)
OTHER BUILDING ENCLOSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION		
(1) EXTERIOR AIR FILM	0.03	
(2) STONE, GROUT & SETTING (OR SANDSTONE)	0.009	
(3) SCRATCH & SETTING CEMENT BED	—	
(4) LATH & MESH	—	
(5) 1/2" AIR SPACE FOR RAIN SCREEN	0.16	
(6) SHEATHING MEMBRANE	—	
(7) 1/2" GYPSUM WALL BOARD	0.09	
(8) POLYETHYLENE	—	
(9) 1/2" GYPSUM CEILING BOARD	0.08	
(10) EXTERIOR AIR FILM	0.12	
TOTAL EFFECTIVE INSULATION VALUE	RSI 2.93 (R-14.04)	
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR ABOVE GRADE WALLS	RSI 2.78 (R-15.78)	
MINIMUM EFFECTIVE THERMAL RESISTANCE	RSI 2.78 (R-15.78)	

ABOVE GRADE WALL ASSEMBLY (V4.5mm (1/8") CEMENT BOARD SKIN)

AS PER BSC 8.36 LATEST REVISION WITH NO HEAT RECOVERY VENTILATOR

DESCRIPTION	NOMINAL	EFFECTIVE

<tbl_r cells="3" ix="5" maxcspan="1" maxrspan="1" usedcols="3



HORIZONTAL CEMENTITIOUS SIDING
MIN. 7/16" THICK, STRIPPED
INSPECT SCREEN & METAL FLASHING AT BOTTOM
TYVEK SHEATHING MEMBRANE
THICK: 1/2" DRYWALL
2 X 6 STUDS AT 16" O.C.
BATT INSULATION (VARIES SEE CALCULATIONS)
1/2" DRYWALL, PAINT FINISH & INTERNAL AIR FILM
1/2" DRYWALL, PAINT FINISH & INTERNAL AIR FILM

HORIZONTAL CEMENTITIOUS SIDING
MIN. 7/16" THICK, STRIPPED
INSPECT SCREEN & METAL FLASHING AT BOTTOM
TYVEK SHEATHING MEMBRANE
THICK: 1/2" DRYWALL
2 X 6 STUDS AT 16" O.C.
BATT INSULATION (VARIES SEE CALCULATIONS)
1/2" DRYWALL, PAINT FINISH & INTERNAL AIR FILM
1/2" DRYWALL, PAINT FINISH & INTERNAL AIR FILM

LAP AND SEAL TYVEK SHEATHING MEMBRANE
OF EXPOSED TYVEK SHEATHING MEMBRANE
OF EXPOSED FLOOR (TYP.)
ALWAYS LAP AND SEAL UPPER SHEETS OVER
LOWER SHEETS

INSECT SCREEN
CAULK EXTERIOR FLOOR
NON-PERFORATED METAL SOFFIT
TYVEK SHEATHING MEMBRANE
1/2" DRYWALL
WOOD FLOOR JOISTS
BATT INSULATION (VARIES SEE CALCULATIONS)
3/8" T & G SHING. (SLICE & NAIL)

FLASHING
6" OR 4" WINDOW TRIM (SEE BUILDING ELEVATIONS)
INSTALL TYVEK SHEATHING
MEMBRANE OVER WINDOW
FRAME MOUNTING FLANGE
LAP MEMBRANE OVER
FLASHING & SEAL ALL JOINTS

CAULKING (TYP.)
SHIM/DRIBBLE
PLATE
WINDOW ROUGH
OPENING &
THE ANGLE
HORSESHOE OR
PLYWOOD BLOCK
W/W/FLASH
DETAIL TO FORM
EQUIVALENT DETAIL
SITE COORDINATE

WINDOW WITH INTEGRAL
MOUNTING FLANGE AS PER
MANUFACTURER
MICROFLASHING ON D.D.
DIMS. OR MINIMUM MEETING
THE REQUIREMENT OF 6.27.3.6(S)
6" OR 4" WINDOW TRIM (SEE
BUILDING ELEVATIONS)

CAULKING (TYP.)
SEAL WITH
ACOUSTIC SEALANT
OR EQUIVALENT
CARRY UP POLY
V.B. AND SEAL TO
US OF
SUBFLOOR (TYP.)

LAP AND SEAL UPPER
SHEET OVER LOWER
SHEET (TYP.)
HORIZONTAL CEMENTITIOUS SIDING
MIN. 7/16" THICK, STRIPPED
INSPECT SCREEN & METAL FLASHING AT BOTTOM
TYVEK SHEATHING MEMBRANE
THICK: 1/2" DRYWALL
2 X 6 STUDS AT 16" O.C.
BATT INSULATION (VARIES SEE CALCULATIONS)
1/2" DRYWALL, PAINT FINISH & INTERNAL AIR FILM

AT FLOOR JOIST
LOCATION (TYP.)
R32 MIN. R-32
WALL RSL

RAINSCREEN DETAILS

SCALE: 1'0" x 1'0"

SECTION

PLAN

WATER LINES

DUCTING

PLUMBING

STRUCTURE

HVAC

DECK

WALL

ROOF

STAIR

STUD

CEIL

PLATE

JOIST

JOIST