IN-FLOOR HEAT INSULATION REQUIREMENTS

SPS 322.33 Slab Floors. (1) Heated or unheated Slabs, (a) Any heated or unheated slab floor, the bottom of which is less than 12 inches below adjacent grade, shall be provided with perimeter insulation in accordance with Table 322.31-1 or Table 322.31-4, except as provided in par. (b). Table 322.31-1 Requires a heated slab (in-floor heat) to have R-Values of 10/15

The first R-value applies under the entire slab, regardles of depth below grade.

The second R-value applies to the slab edge where the bottom of the slab is less than 12 inches below adjacent grade. Slab edge insulation shall extend downward from the top of the slab for a minimum of 48 inches or downward to at least the bottom of the slab and then horizontally to the interior or exterior for a total distance of 48 inches. This is required for a heated slab regardless of what the energy analysis has for R-value or depth below grade.

FOLLOWING ARE 8 EXAMPLES OF COMPLIANT WAYS TO ACHIEVE THE REQUIREMENTS OF TABLE 322.31-1 & 1 EXAMPLE OF A NON-COMPLIANT INSTALLATION. OTHER COMPLIANT WAYS MAY EXIST THE EXAMPLES ARE MEANT TO ASSIST YOU IN THE PLANNING STAGES TO REDUCE DOWNTIME IN THE FIELD DUE TO THIS DETAIL NOT BEING INCLUDED ON THE CONSTRUCTION PLANS PLEASE REMEMBER THIS HAS NOTHING TO DO WITH FROST PROTECTION OR FPSF FOUNDATIONS.

EXAMPLE 1:

INSULATION BELOW SLAB & SLAB EDGE INSULATION ON EXTERIOR OF FROST WALL FOR A TOTAL OF 48" & A TOTAL R-VALUE OF 15



EXAMPLE 2: INSULATION BELOW SLAB & SLAB EDGE INSULATION ON INTERIOR OF FROST WALL FOR A TOTAL OF 48" & A TOTAL R-VALUE OF 15



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EXAMPLE 3: INSULATION BELOW SLAB & SLAB EDGE INSULATION ON THE EXTERIOR & INTERIOR FOR A TOTAL OF 48" & A TOTAL R-VALUE OF 15 THICKNESS OF STYROFOAM AND R-VALUE MAY DIFFER AS LONG AS THE TOTAL R-VALUE = 15 1" R-5 STYROFOAM -2" R-10 STYROFOAM ·.. · . minninn GRADE 2" R-10 **STYROFOAM** \triangleleft

EXAMPLE 4: INSULATION BELOW SLAB & ALL SLAB EDGE INSULATION ON INTERIOR OF FROST WALL EXTENDING DOWN & HORIZONTALLY FOR A TOTAL OF 48" & A TOTAL R-VALUE OF 15

THICKNESS OF STYROFOAM AND R-VALUE MAY DIFFER AS LONG AS THE TOTAL R-VALUE = 15



10 inches thick or by pavement.

EXAMPLE 6: INSULATION BELOW SLAB, SLAB OVER LROST WALL & ALL SLAB EDGE INSULATION ON EXTERIOR OF LROST WALL FOR A TOTAL OL 48" & A TOTAL R-VALUE OP 15

THICKNESS OF STYROFOAM AND R-VALUE MAY DIFFER AS LONG AS THE TOTAL R-VALUE = 15 / 2" R-10 STYROFOAM 1" R-5 STYROFOAM 2" R-10 STYROFOAM

EXAMPLE 7: INSULATION BELOW SLAB & SLAB EDGE INSULATION ON EXTERIOR OF FROST WALL & INTERIOR OF SLAB EDGE & INTERIOR OF FROST WALL WITH FROST WALL NOTCHED FOR FLOOR



EXAMPLE 8: INSULATION BELOW SLAB & SLAB EDGE INSULATION ON EXTERIOR OF FROST WALL FOR A TOTAL OF 48" & TOTAL R-VALUE OF 15 WITH FLOOR NOTCHED INTO FROST WALL



EXAMPLE 9: INSULATION BELOW SLAB & SLAB EDGE INSULATION ON EXTERIOR OF FROST WALL & INTERIOR OF SLAB EDGE

