LOAD RATINGS FOR HEAT-SHEET® & HEAT-SHEET® HEAVY

The accompanying chart and formula present the load capacity guidelines for Heat-Sheet and Heat-Sheet Heavy when placed beneath concrete slabs.

This chart details load capacities for both dynamic and static pressures. Based on the type of load and the thickness of the concrete slab, it specifies the suitable compressive strengths for Heat-Sheet and Heat-Sheet Heavy panels.

NOTE: Refer to the Material Property Data Sheet for load ratings applicable to Heat-Sheet Heavy Under-slab Radon Mitigation Insulation Layer applications.

DYNAMIC LOADS

The chart illustrates dynamic loads varying between 2,000 and 16,000 lbs, corresponding to wheel loads. On the y-axis, the chart displays the load transfer to the slab's bottom, signifying the compressive load that both Heat-Sheet and Heat-Sheet Heavy panels are designed to withstand.

STATIC LOADS

The compressive loads on the slab surface can be computed to ascertain the load that is subsequently transferred to the slab's bottom. By consulting the chart, one can then identify the necessary compressive strength for Heat-Sheet and Heat-Sheet Heavy panels.

To determine the compressive load at the bottom of the slab, the following variables are required:

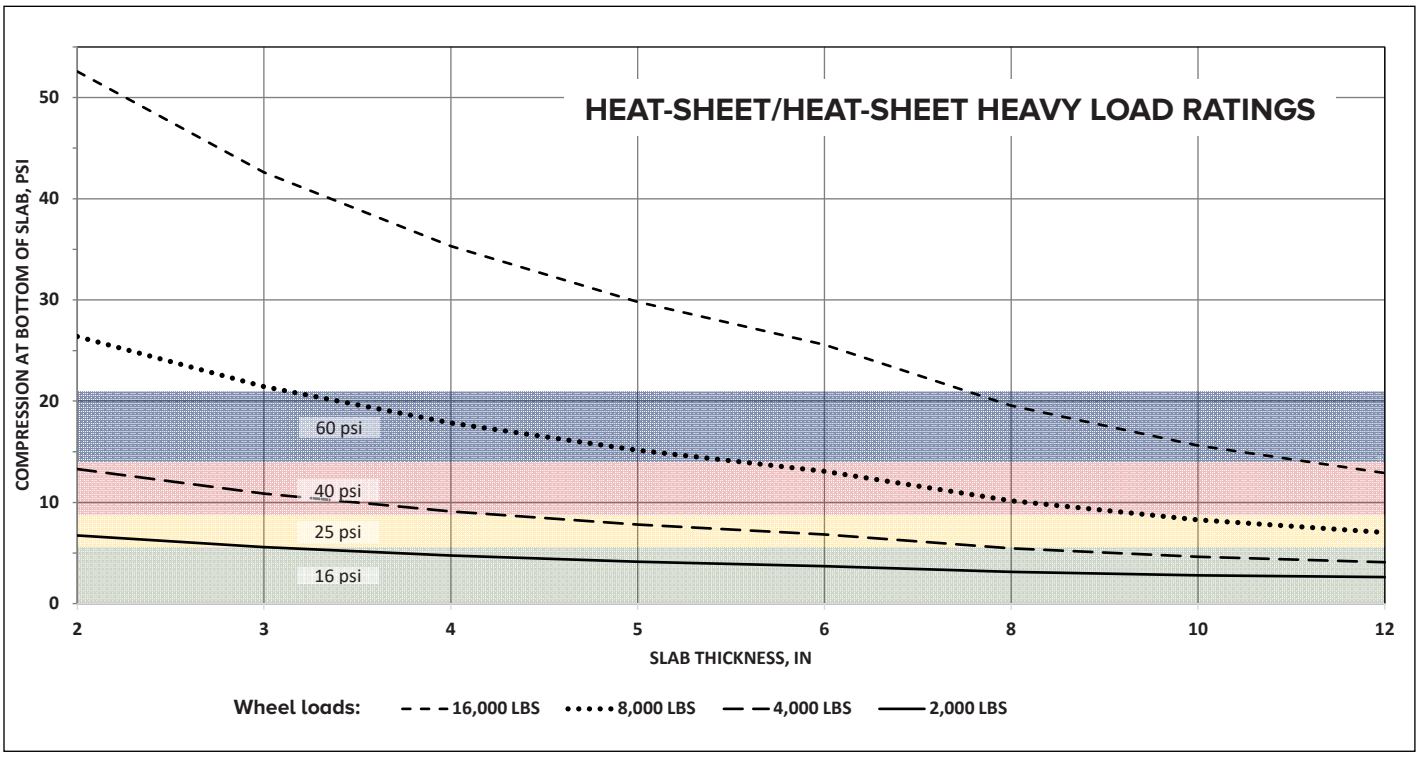
1. Load applied at the slab surface, P, in pounds.
2. Length and width of the area that the load is applied over, L x W, in inches.
3. Slab thickness, t, in inches.

The compressive load at the bottom of the slab is then determined by the following equations:

Load distribution area at bottom of slab, $A_{bot} = (2t+L)(2t+W)$

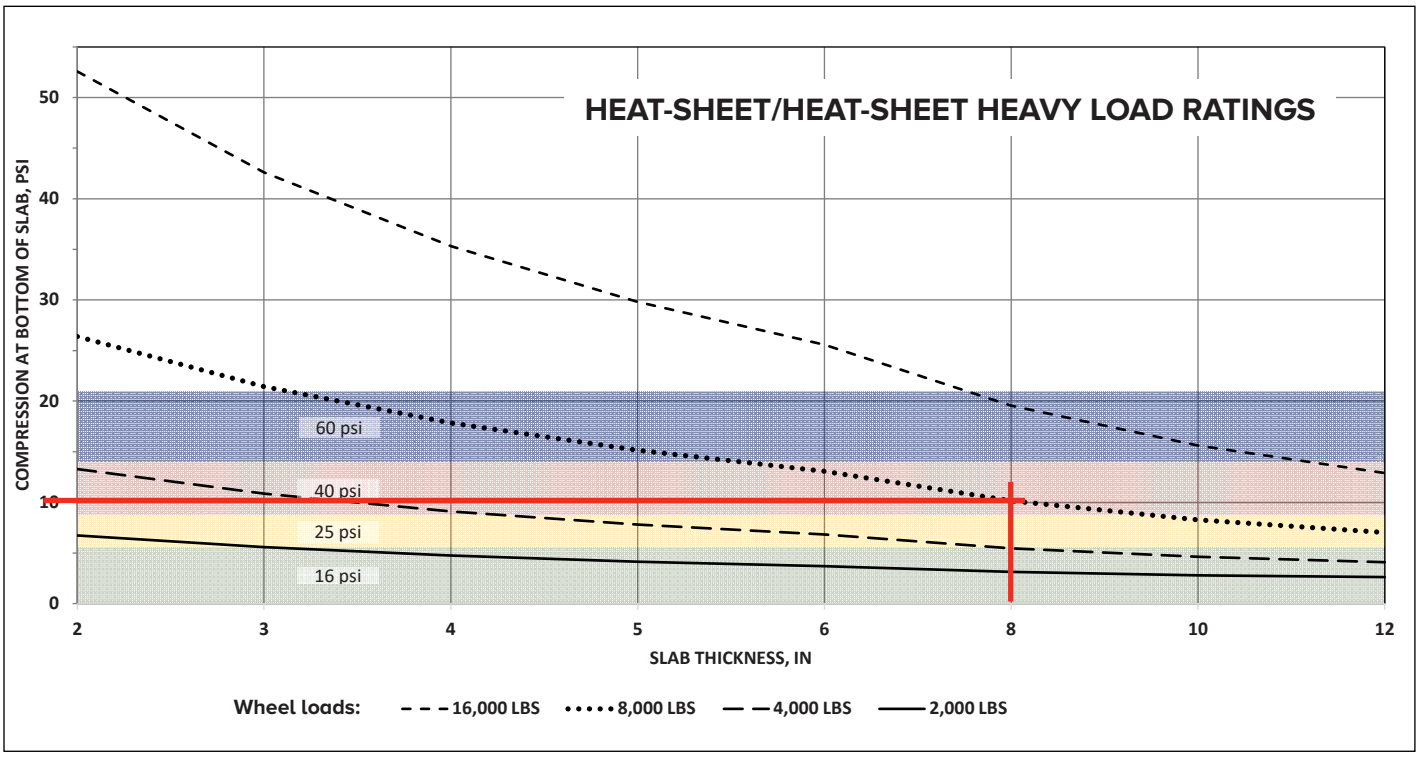
Compressive load at bottom of slab, $w = (P/A_{bot})+0.0868t$

For further information, please contact Logix Brands at info@logixbrands.com.



NOTES:

1. Load chart applies to Heat-Sheet and Heat-Sheet Heavy radiant floor insulation panels. Heat-Sheet Heavy is currently available only in 25 psi compressive strength. However, custom orders are available.
2. Confirm availability with your local supplier.
3. Wheel foot print is based on 20”x10” at slab surface.
4. 10% impact load included with dynamic load conditions.
5. Wheel loads includes self-weight of concrete slab.
6. Slab thickness is taken from top of slab to top of Heat-Sheet and Heat-Sheet Heavy nodules.
7. Interpolation between wheel loads permitted.
8. To account for long-term creep and deflection, compression is kept to no more than 35% of the compressive strength of Heat-Sheet and Heat-Sheet Heavy.



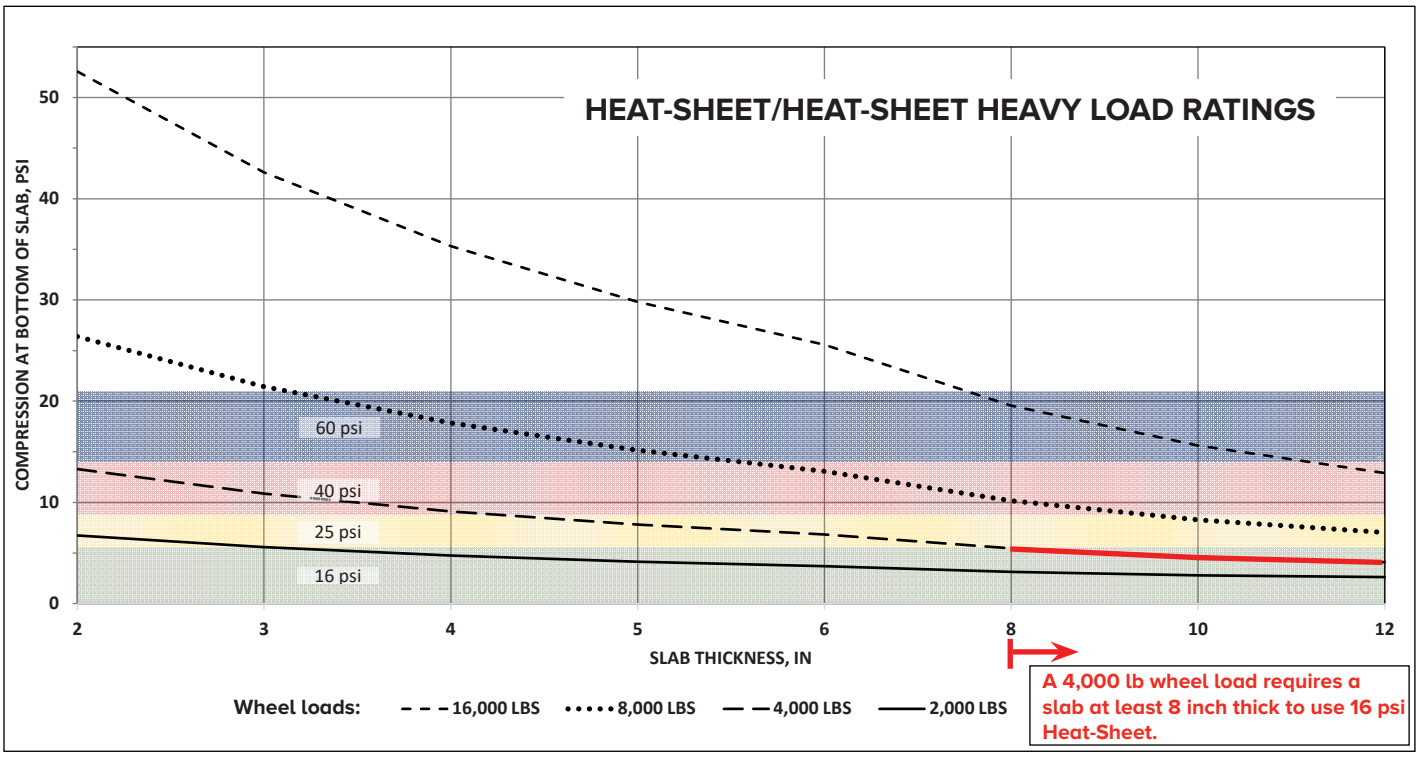
EXAMPLE 1: DYNAMIC LOAD

Given: wheel load = 8,000 lbs
slab thickness = 8 inches

Find: Heat-Sheet compressive strength required.

Solution: From Load Rating chart, select 8 inch along horizontal axis, move vertically to where the 8,000 lb chart is intersected. The intersection falls in the region where the Heat-Sheet minimum compressive strength of 40 psi is required.

Note, in addition, the wheel load distribution to the Heat-Sheet panels (or bottom of slab) is about 10 psi. The compressive load is kept to no more than 35% of the compressive strength of Heat-Sheet to account for long-term creep and deflection.

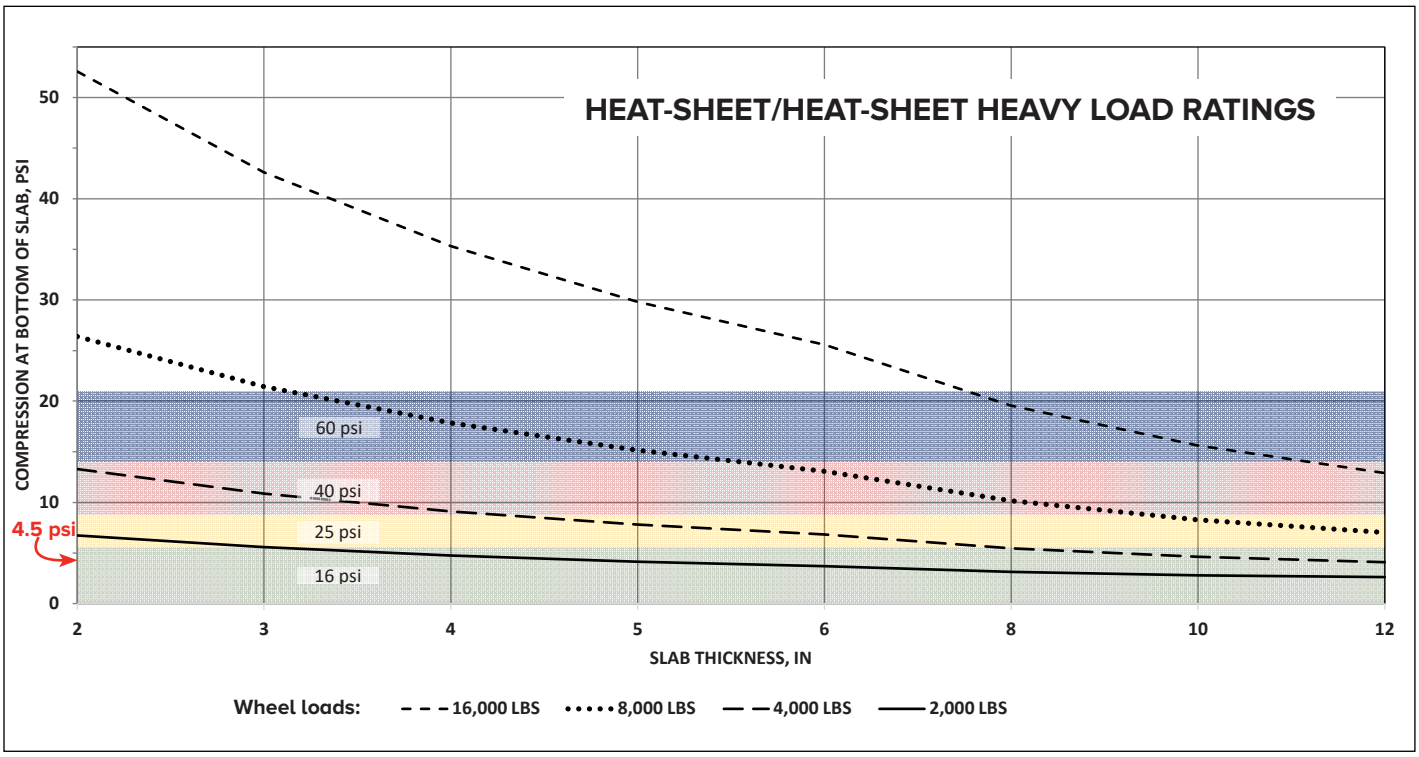


EXAMPLE 2: DYNAMIC LOAD

Given: wheel load = 4,000 lbs
Heat-Sheet panel compressive strength = 16 psi

Find: Required slab thickness.

Solution: From Load Rating chart, the line chart for 4,000 lbs wheel load falls within the 16 psi region at slab thicknesses greater than 8 inches. Therefore, the required slab thickness must be greater than 8 inches in order to use Heat-Sheet panels with a compressive strength of 16 psi.



EXAMPLE 3: STATIC LOAD

Given: applied load, P = 5,000 lbs
length of applied area, L = 24 inches
width of applied area, W = 30 inches
slab thickness, t = 4 inches

Find: Heat-Sheet minmum compressive strength.

Solution: Determine compressive load at bottom of slab.

Load distribution area at bottom of slab, Abot:

Abot = (2t+L)(2t+W) = [(2*4)+24][(2*4)+30] = [8+24][8+30] = 32*38 = 1,216 in^2

Therefore, compressive load at bottom of slab, w:

w = (P/Abot)+0.0868t = (5000/1216)+(0.0868*4) = 4.112+0.347 = 4.5 psi

From the Load Rating Chart, along the vertical axis, 4.5 psi falls in the region where the minimum compressive strength for Heat-Sheet is 16 psi.

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