



Ray Magic submittal ® SL submittal



US patent #10113678

Job _____

Designer _____

Contact _____

Ray Magic SL (Slim) is a high performance hydronic radiant gypsum panel. It comes finished with CertainTeed 1/2" gypsum board with AirRenew®. It installs on the ceiling, to create an unobstructed radiant surface. Ray Magic SL is 2'x8' in size and can be cut down into two 2'x4' panels to fit smaller spaces.

Ray Magic SL **ships in a two-panel format (4'x8' in size)** that will need to be split into two 2'x8' panels on site.

The panel consists of a 1 1/2" thick EPS board with laid down aluminum heat transfer plates with propriety omega shaped channels. Pressed into these channels are two symmetrical 8 mm PEX radiant tubing circuits laid out in a serpentine pattern. Each tubing circuit is connected in parallel to 16 mm PEX return and supply lines that run along the length of the panel. Panels are connected together using slide-in patented fitting technology that allows for internal PEX piping expansion and contraction.

Technical specifications^{1,2}

Model Ray Magic SL

Part number RGSL4812

Features

- Quick and easy to install with panel slide-in patented fitting technology
- High heating and cooling performance
- 90% net radiant surface
- Tubing footprint and screw template laser engraved (ink free)
- Works with 16 mm PEX or 1/2" PEX header lines³
- Panel pre-cut opening window to access fittings in case of necessity

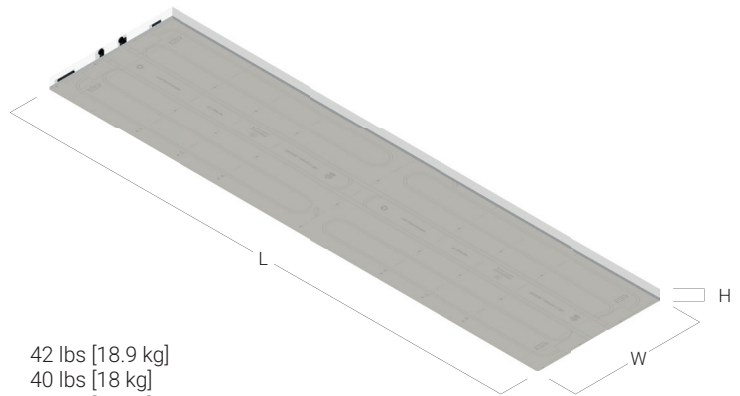
Size and weight²

Nominal size

W 2' [610 mm]
 L 8' [2438 mm]
 H 2" [51 mm]

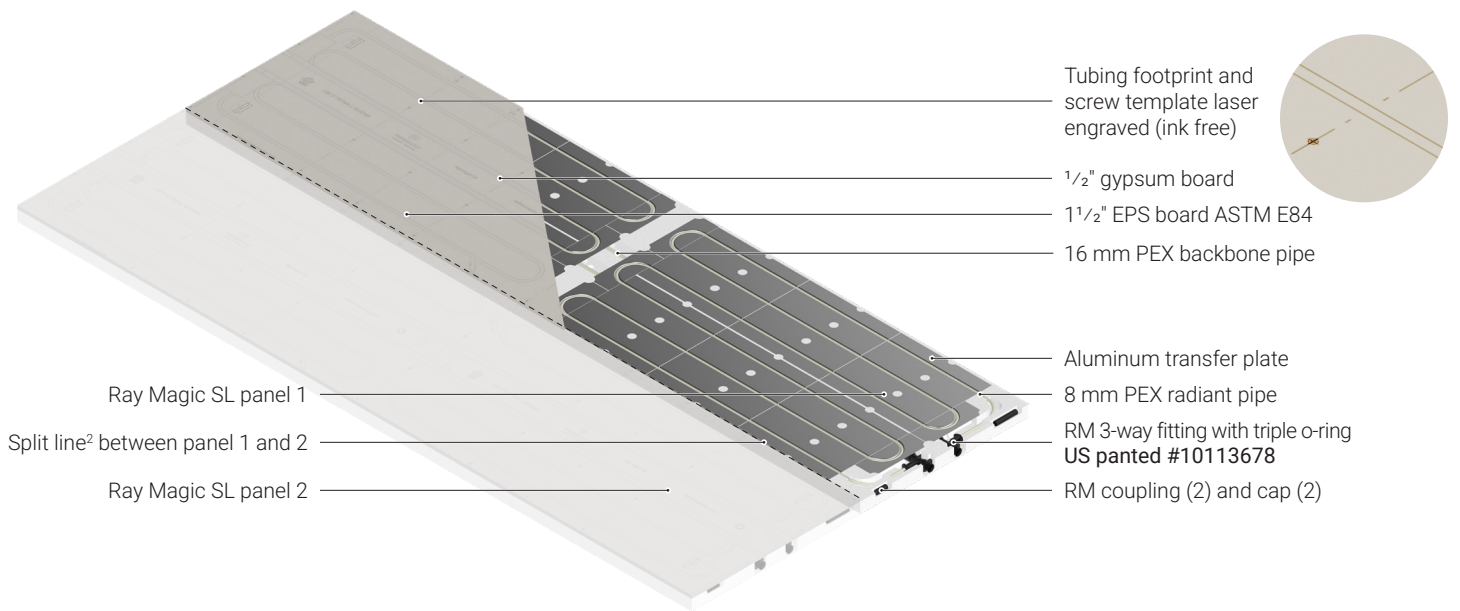
two-panel 4'x8' format
W

Weight
 wet (with H₂O) 42 lbs [18.9 kg]
 dry 40 lbs [18 kg]
 two-panel 4'x8' format 80 lbs [38 kg]



Finishing CertainTeed high density 1/2" gypsum board with AirRenew technology

Packaging² Ray Magic SL is shipped in a two-panel format (4'x8' in size) that contains two Ray Magic SL panels



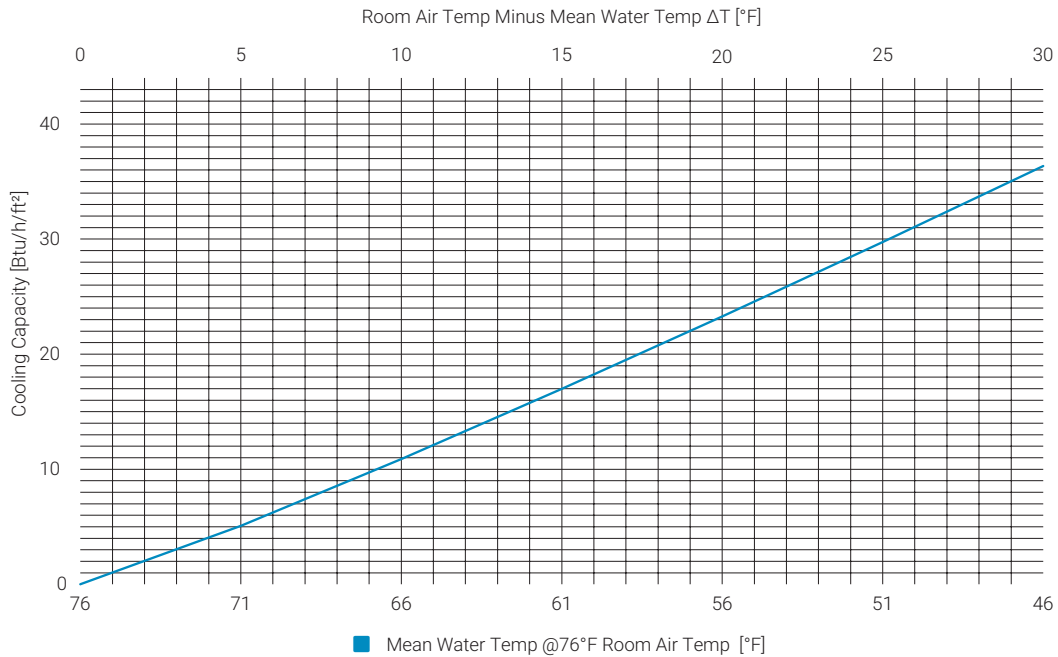
Panel connection	Up to 12 panels per loop (use expansion joint after 4 panels connected in series)
	Panel to panel: use (2) RM couplings (included with each panel)
	Panel capping: use (2) RM caps (included with each panel)
	Panel to headers ³ : use 16 mm Messana pre-insulated PEX pipe or 1/2" PEX pipe (see note 3)
Heat exchanger	Aluminum plates omega-shaped to wrap around the pipe to increase thermal exchange surface
	Thickness: 0.016 inch [0.4mm], 27 gauge
	Thermal conductivity: 0.21 W/mK (1/2" gypsum board)
	Radiant pipe: 8 mm [$\approx 5/16$ "] PEX 3-layer pipe with EVOH oxygen barrier
	Serpentine pattern: 3 $3/8$ " o.c. [100 mm], 3" max cut-out allowed
	Serpentine length: 24 ft per circuit, two circuits per panels (total 48 ft of piping per 2'x8' panel)
Radiant Area	Gross radiant area: 16 sq.ft (total panel surface)
	Net radiant area: 14.4 sq.ft (total active surface)
	Net radiant percentage: 90%
Fluid operating temperature	46 °F to 130 °F
Cooling capacity	23.2 Btu/h/sq.ft @55 °F (Max 36.2 Btu/h/sq.ft @46 °F) with 76 °F room temperature
Heat output	28.0 Btu/h/sq.ft @100 °F (Max 59.2 Btu/h/sq.ft @130 °F) with 70 °F room temperature
Nominal flow rate	0.1 GPM full panel (2'x8') 0.05 GPM half panel (2'x4')
Pressure drop	0.8 ft of head [0.35 psi] @0.1 GPM
Operating pressure	20 to 40 psi (air pressure test at 100 psi)
Water content	0.23 gal [0.875 lt], equivalent to approximately 2 lb [0.9 Kg] of water
Insulation	1 1/2" EPS board ASTM E84 (Class A rated)

Notes

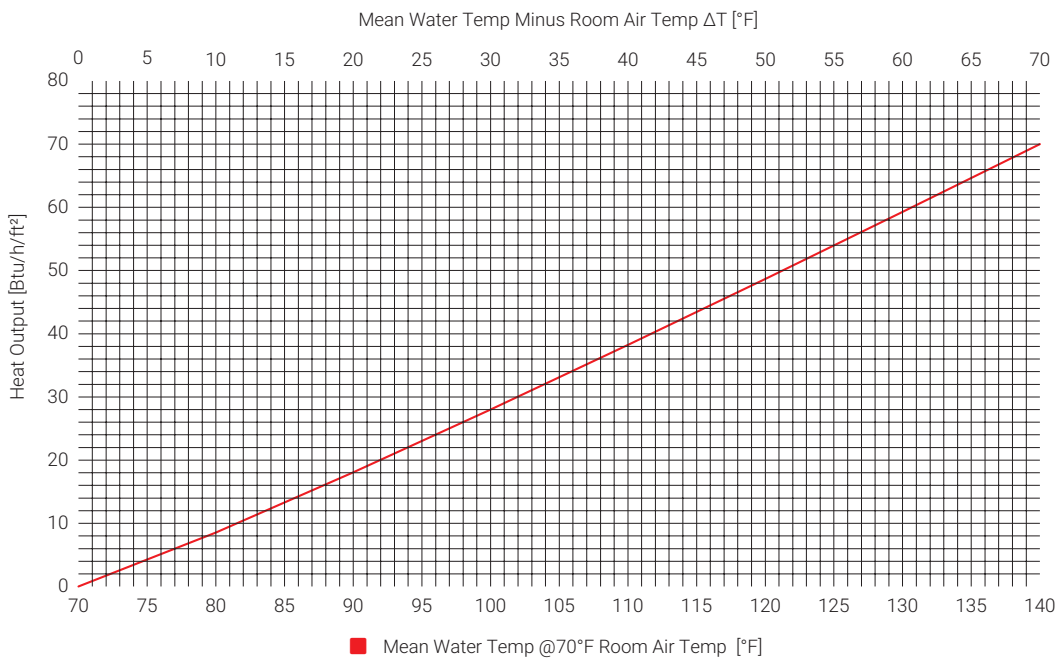
1. Size, weights and technical characteristics may vary without prior notice.
2. Ray Magic SL is 2'x8' in size. Panels are manufactured in a 4'x8' format that includes two Ray Magic SL panels. The 4'x8' panel must be cut along the split line on the job site. Unless differently specified, all data refer to one single 2'x8' Ray Magic SL panel (no the package of two).
3. For 1/2" PEX must use the Messana ASTM F1960 connection adapters (Q41/2PPXC0UP).

Thermal performance¹

Cooling capacity



Heating output



Notes

1. These thermal performance charts are based on a correlation between internal testing performed using thermal imaging of the panel surface and the test results, according to the nominatives EN 14240 (cooling) and EN 14037 (heating), performed on the previous version of the Ray Magic panel.