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Technical Newsletter #31 5.0

Subject: Radiant heating systems recommendations

MIRAGE knows there are a lot of different radiant heating systems available on the market. Based on tests carried out by the MIRAGE R&D team to evaluate some of the systems in terms of risk regarding platforms and installation methods, this technical newsletter will review the recommendations MIRAGE has regarding the installation of a radiant heating system, the type of system that is allowed to install depending on the floor technology and installation method, and the exclusions.

Here are some general recommendations:

- Make sure to use adhesives recognized by the radiant heating system manufacturer's and by MIRAGE Technical Newsletter #23.
- Make sure the wood surface temperature never exceeds 80 °F (27 °C) and not vary from any point by more than 3 °F (2 °C).
- MIRAGE recommendations should never overpass the radiant heating system manufacturer's instructions.
- Make sure the radiant heating system has been tested and in operation for a week prior to the floor installation. The system temperature should be lowered during installation.

Please find below which type of system is allowed to be installed depending on the floor technology and installation method.

	Type of technologies and installation methods		
Type of radiant heating systems	**Gluing**	**Floating[1]**	**Nailing[2]**
	TruBalance/ Northern Solid Sawn TruBalance/ Northern Solid Sawn Lite Engineered Lock	TruBalance/ Northern Solid Sawn TruBalance/ Northern Solid Sawn Lite Lock	TruBalance/ Northern Solid Sawn TruBalance/ Northern Solid Sawn Lite Engineered
Pipes or electric grid embedded in concrete (slab or thin layer of gypcrete/light concrete)	✓	✓	N/A
Pipes in grooved wooden panels (not covered on top)	✓	✓	Please refer to the Technical Newsletter #36, method 4 with at least 2 beads.
Uncovered pipes in grooved wooden panels with aluminum/metal plated	✓	✓	Please refer to the Technical Newsletter #36, method 4 with at least 2 beads.
Pipes covered with dissipating aluminum/metal plates and/or wooden panels (also dissipating plates between pipes)	✓	✓	Please refer to the Technical Newsletter #36, method 4 with at least 2 beads.

CONTINUED ON NEXT PAGE

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	Gluing	**Floating**[1]	**Nailing**[2]
	TruBalance/ Northern Solid Sawn TruBalance/ Northern Solid Sawn Lite Engineered Lock	TruBalance/ Northern Solid Sawn TruBalance/ Northern Solid Sawn Lite Lock	TruBalance/ Northern Solid Sawn TruBalance/ Northern Solid Sawn Lite Engineered
Pipes or electrical system fixed under the subfloor (in joist system)	✓	✓	Please refer to the Technical Newsletter #36, method 4 with at least 2 beads.
Semi-conductive types of polymers or "heating mat" (all the surface of the panel/mat is heating)	✓	✓	N/A
"Metal heating foil" not attached to subfloor	✗	✓	N/A
Electrical wire system attached or not to a "neutral support"	✓[3]	✓	N/A

✓ *Allowed*

✗ *Not allowed*

Exclusions

Based on tests carried out by the MIRAGE R&D team regarding the performance of Solid technology floors and all Hickory floors over radiant heat, and based on the National Wood Flooring Association statement that radiant heating installations using denser species are less stable, MIRAGE does not allow these products to be installed over this type of system.

If you need more information or have any questions, please feel free to contact our Technical Service Department.

[1] *Using a recommended membrane following Technical Newsletter #20, with TruBalance/Northern Solid Sawn, TruBalance Lite/Northern Solid Sawn Lite or Lock product only.*

[2] *We understand that some system can be covered by a wood panel to allow nailing (even if embedded in concrete for example). Nailing installation is not preferred since it could lead to more floor movement and risk of system damage.*

[3] *Wire diameter and spacing should lead to an 80% glue transfer to be a valid installation. Trowel and adhesive coverage could vary.*

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