



November 7, 2019

RE: Bona R851 & Bona R859 Adhesives & Mirage Engineered Hardwood Floors

Bona R851 & Bona R859 Adhesives meets or exceeds the following Mirage Engineered adhesive specifications when installed per product specifications. For the most current Bona adhesive specifications please refer to bona.com or contact Bona customer service at 800.872.5515.

Mirage Engineered			
Criteria	Standard	Specification	Benefit if criteria is met
Water content		0%	To avoid water damage and not compromise installation
○ Green grab		Holds ridges High initial grab	To hold product on uneven subfloor To facilitate installation, avoid floor/board misalignment
□ Shear strength	EN 14293	72 psi [0.5 Mpa]	To ensure good bonding and performance
□ Elongation at break	EN 14293 [modified]	Between 40 and 400%	To allow appropriate expansion
□ Tensile strength	EN 14293	90 psi [0.6 Mpa]	To ensure good bonding and performance
or			
□ Tensile strength	ASTM D-412 [method a]	72 psi [0.5 Mpa] [7 day cure]	To ensure good bonding and performance
□ Elongation at break	ASTM D-412 [method a]	Between 40 and 400%	To allow appropriate expansion
□ Creep of an assembly* [tensile or shear]	EN 14293 [modified] lap shear or equivalent standard	Max. 1 mm elongation [at loading] 30 psi [0.2 Mpa] loading [30 min.] [7 day cured assembly]	To avoid buckling, excessive expansion, or performance problems To ensure <u>long term</u> performance/stress resistance
Adhesive transfer		> 80%	To ensure good bonding
○ Curing time		Max. 24 hrs	Excessively long cure times can lead to installation issues
Service temperature		20 to 110°F [-6 to 43°C]	To sustain variable temperature and radiant heat systems
Warranty		Lifetime	To match Mirage warranty

○ = Affected installation [time required and/or ease of installation]

*Assembly: typical floor and concrete assembly [or similar to concrete]

□ = Properties that have an impact on product performance [expansion, cupping]

Note: ASTM D-412 and EN 14293 do not necessarily correlate.

Best regards,

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