

G-FLEX MEMBRANE

Description: an anti-fracture waterproof decoupling sheet that protects and improves durability of tile installations outdoors and indoors when installed on critical supports; fissured, with movement or with moisture vapor stress.

Structure: G-Flex is a 1/8" (3 mm) thick multilayer system with nodular geometric structure. It is made up of a 0.5 mm thick high-density polyethylene (HDPE) waterproof sheet with 3/32" (2.5 mm) square cavities and a non-woven veil of thermo-bonded polypropylene fibers at the base of the cavities.

Conforms to definition for uncoupling membranes in the Tile Council of North America Handbook for Ceramic Tile Installation.

REF.	DESCRIPTION	MEASURE
ILU5100	G-FLEX ROLL	3' 3" x 45' 9" = 150 sqft
ILU5200	G-FLEX ROLL	3' 3" x 98' 5" = 323 sqft

Test results

G-Flex Uncoupling Membrane Physical Properties.

PHYSICAL PROPERTIES	VALUE
Fleece raw material	PP
Core raw Material	HDPE
Color	Red
Material thickness	0.02"
Membrane thickness	1/8"
Weight	0.128 lb/ft ²
Air gap volume	0.0052 ft ³ /ft ²
Stud cavities volume	0.0039 ft ³ /ft ²
Shear strength (Pull-out test) Thinset tile adhesive - 28 days	> 60 psi
Tear strength MD/CMD	> 40/40 lb/inch
Elongation	> 25%
Performance temperature range	-22°F / +176°F

G-Flex Uncoupling Membrane Service Rating

The method used to establish the overall performance of a tile assembly under loading is the ASTM C627 "Standard Test Method for Evaluating Ceramic Floor Tile Installation Systems Using the Robinson Type Floor Tester.

PHYSICAL PROPERTIES	VALUE
Wood substrate 16" o.c.	EXTRA HEAVY
Wood substrate 19.2" o.c.	EXTRA HEAVY
Concrete slab	EXTRA HEAVY
Wood substrate 24" O.C.	HEAVY / EXTRA HEAVY

Wood substrate tests were performed on 23/32" thick OSB or Plywood with thin-set mortar that meets A118.11 and ANSI A118.15. For installations with 24" O.C. joist spacing, we recommend installing a second 3/8" thick layer to achieve maximum performance.

G-FLEX Uncoupling Membrane Performance

In the interest of providing to our customers with relevant data on the performance of our uncoupling membrane G-FLEX so that these can be compared with those reported by other membranes, at Guru USA we have had G-FLEX membrane tested by independent laboratories.

The method used is the ASTM C627 "Standard Test Method for Evaluating Ceramic Floor Tile Installation Systems Using the Robinson Type Floor Tester."

The "Tile Council of North America (TCNA) Handbook for Ceramic, Glass, and Stone Tile Installation" explains that the purpose of an uncoupling membrane is to allow independent movement between the tile and the substrate and limit the transfer of stress. The level of efficacy of the membrane is determined by the tile floor assembly performance level measured by the Robinson test. The ratings include residential, light, moderate, heavy, and extra heavy, in order of improving performance.

G-FLEX Uncoupling Membrane Robinson test results

Report Number	Substrate	Joist Spacing	Tile	Rating
TCNA-0626-21	OSB	19.2" OC	12" x 12" porcelain	Extra Heavy (14 cycles)
TCNA-0229-23	Plywood	24" OC	12" x 12" porcelain	Extra Heavy (14 cycles)
NOTE ¹	Plywood	19.2" OC	12" x 12" porcelain	Extra Heavy ¹
TCNA-0230-23	OSB	24" OC	6" x 6" porcelain	Heavy (12 cycles)
NOTE ²	OSB	19.2" OC	6" x 6" porcelain	Heavy / Extra Heavy ²
TCNA-0627-21	Concrete	N/A	12" x 12" porcelain	Extra Heavy (14 cycles)

Notes

When the performance must be determined in different conditions, it is tested in the most unfavorable condition, assuming that under less demanding conditions the rating will be the same or higher.

¹ In this way, as for 12" x 12" porcelain tile on plywood G-Flex reaches the maximum possible rating, Extra Heavy, with 24" OC, then we can assume an equal result in a less demanding condition (NOTE ¹) such as 19.2 " OC, a higher rating than other membranes that only reach Heavy (13 cycles) in the same condition.

² It is also the case for 6" x 6" porcelain tile on OSB where G-Flex reaches with 24" OC Heavy rating (12 cycles), so we can count on an equal or higher result (NOTE ²) in a less demanding condition such as 19.2" OC to compare with other membranes in the same condition.

Assembly Notes

- All plywood and OSB subfloors were 23/32" thick.
- G-FLEX bonded to substrate with modified thin-set mortar (A118.11 and ANSI A118.15) using a 1/4" x 1/4" square notched trowel.
- The tiles were installed immediately bonded to G-FLEX with the same modified thin-set mortar (A118.11 and ANSI A118.15).
- The assembly was cured 24 hours before grouting with polymer-modified cement grout (ANSI A118.7)
- The grouted installation was allowed to cure for at least 28 days.