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Carpet Secondary Backings

Carpet backing systems consist of at least two of the three possible elements:

- 1) The primary backing-woven polypropylene
- 2) The pre-coat and binder (varied)
- 3) The secondary backing (varied)

The term secondary backing refers to any fabric laminated to the tufted carrier (primary) backing of a carpet to provide additional dimensional stability. In manufacturing, a latex compound consisting of styrene butadiene rubber (SBR or SB Rubber) and filler (such as calcium carbonate) is typically used as a pre-coat and as a laminate, although polyurethane is also used. The more rubber-rich a SB rubber compound is, the more tuft bind, pilling/fuzzing, and laminate strength it will provide.

Note: Regardless of the type of secondary backing system used (Woven Polypropylene, Kanga, Wrinkle Guard, etc.) if the backing is laminated, and the carpet is FHA certified, the backing must yield a minimum of 2.5 lb. delamination strength.

Common Secondary Backing Types

- 1) **Woven Polypropylene (AB)** – A woven synthetic secondary backing made from slit film and spun polypropylene yarns. These yarns are referred to as warp yarns (slit film yarns placed in the length weave) and weft yarns (plied yarns that are placed in width weave). Woven Polypropylene is resistant to mold and mildew, it will not rot, and it provides an elastic secondary backing for stretch-in installations. Designed for either commercial or residential stretch-in or direct glue-down installations. Woven Polypropylene and other primary and secondary backings made from polypropylene are heat sensitive. Examples: If a seam iron thermostat is set too high it can cause the primary backing to shrink, causing seam peaking. This can also cause the secondary backing to shrink, which causes cuffing. Typical Woven Polypropylene and other unbranded woven synthetic secondary backings will have 5 weft yarns in the weave.

Note: A carpets nap direction can be identified by the direction of the shiny slit film warp yarns.

- 2) **High Pick (HP)** - A woven synthetic secondary backing consisting of slit film and spun polypropylene yarn that is identified by the closeness of the length weave. The “pick” represents the number of weft yarns shuttled across the warp yarns. High pick secondary backings provide greater dimensional stability. High Pick backing refers to a woven synthetic secondary backing (e.g. Woven Polypropylene). Designed for stretch-in installations. High Pick secondary backings will have 8 or more weft yarns.
- 3) **Kanga** -The trademark name of Textile Rubber and Chemical Co. that describes a lightweight, attached filler-free urethane carpet cushion for residential use. For residential direct glue down installations. Urethane is applied in a thick liquid state that converts to foam when dried. The introduction of Kanga Back 25 years ago promoted the do- it- yourself market segment and the use of the perimeter adhesive spread for direct glue down installations, and the double face tape method of installation.
- 4) **Latex (LX)**-A single laminated backing system consisting of latex. LX backing is a lightweight, less expensive, and more flexible backing compared to unitary backing. LX is used on our residential Indoor/Outdoor carpets only and is used with needlepunch products. LX carpets are intended for direct glue-down installations.
- 5) **Marine Back (MB, BM, TM, WM, B9 and GM)**-A laminated indoor/outdoor carpet backing system consisting of natural rubber and SB latex with a low filler load. The difference between these secondary backings is primarily cosmetic (e.g. the addition of a green

dye added to create Green Marine backing). Marine Back provides moderate tread comfort, has low moisture permeability, will not expand or shrink, and has good slip resistance compared to bare wet concrete. For direct glue-down in residential installations. Occasionally, Marine Back is installed using perimeter glue down and double face tape in the do-it-yourself market.

- 6) **Non-Skid Waffle Back (WB), Non-Skid Marine (WC)**-An embossed laminated outdoor carpet backing consisting of natural rubber and SB latex with low filler load. Provides low moisture permeability and good slip resistance compared to bare wet concrete. The term “non-skid” refers to carpet that would be slip resistant if installed loose-lay. Non-Skid Waffle Backing is available only on residential carpets that can be installed either indoors or outdoors.
- 7) **Omni Loc Unitary Back (UL)**-A single laminated backing system consisting of a synthetic rubber-rich, filler load low SB compound that is used to increase tuft bind strength, provide better resistance to raveling, and cannot delaminate. UL is designed for straight stitch carpet constructions. UL backed carpets are designed for commercial direct glue-down installations. They are not suitable for double-glue installations, and they cannot be stretched.
- 8) **Omni Loc GBS- Unitary with Woven Polypropylene (UA)** - A backing system using unitary grade latex as the binder, and an attached woven synthetic secondary backing. Intended primarily for nylon graphic constructions to prevent wrinkling from inadequate adhesive transfer to the unitary because of the “ridges” created beneath the primary backing because of the step-over stitch construction. For direct glue-down installations only. UA is designed for nylon graphic styles in order to provide greater contact with the carpet adhesive. UA backed carpets are intended for commercial direct glue-down installations. They are not suitable for double-glue installations, and they cannot be stretched.
- 9) **Omni Loc Laminate (G1)** - A backing consisting of a high strength polyurethane pre-coat and laminate compound containing an anti-microbial additive, and with an attached non-woven scrim. Polyurethane is not affected by moisture and provides very good tuft bind properties that allow G1 backed carpets to be very resistant to raveling and zipping. G1 backed carpets are designed for extreme traffic counts, and are intended for commercial direct glue-down installations.
- 10) **Omni Loc Attached Cushion (G2)** - A backing consisting of a polyurethane pre-coat and a high strength, 18 lb pcf density attached polyurethane cushion with an attached non-woven scrim. G2 backing is designed to provide improved carpet resiliency in high traffic areas as well as improved tread comfort. G2 emits very low levels of VOC, and 4-PCH, and other VOC's associated with SB latex. G2 provides good resistance to edge ravel and zipping, and provides high insulation properties (G2 backed carpet should not be installed over a radiant heated floor for this reason). G2 backed carpets are intended for commercial direct glue-down installations.
- 11) **Wrinkle Guard (H2)** – A laminated woven synthetic secondary backing made of polypropylene that has a pick rate much higher than a standard Woven Polypropylene (AB) or High Pick (HP) backing. Wrinkle Guard typically has 10 or more weft yarns, compared to a standard of 5 on Woven Polypropylene which reduces the need for re-stretching a properly installed carpet, is easier to slide over carpet cushion, and offers greater dimensional stability. Wrinkle Guard is mold and mildew resistant, will not rot and is designed for residential stretch-in installation.
- 12) **Unitary Urethane (UU)** - A moisture resistant backing that impedes liquid penetration to the subfloor, is durable, offers good dimensional stability, is a single laminated backing and is more flexible when compared to Woven Polypropylene (AB) backing.

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