Properties of Liquid and Fabric Sheet Membranes

Manufacturer	Product Name	Availability	PERM Rating	Thickness	Seaming Methods	Bonding Method	Comments
Custom Building Products	RedGard liquid	1g;3.5g bucket	0.36 (0.35 is also listed)	Two coats, 20-25mils wet	May require fabric reinforcement of changes of plane	Paint on	Film thickness and evenness will affect both water and vapor tightness
	RedGard Fabric	54sqft roll;323sqft roll	0.06		Self-overlap or RedGard Strip material	Dryset mortar	
Laticrete	Hydroban Sheet	108sqft roll;323sqft roll	0.06	20-30mils?	Self-overlap or seaming tape (minimum of 2" overlap)	Dryset or modified mortar depending on substrate	
	Hydroban Liquid	1g;5g bucket	1.247	20-30mils when cured	May require fabric reinforcement of changes of plane	Paint on	Film thickness and evenness will affect both water and vapor tightness
Mapei	Mapelastic™ AquaDefense	1g;3.5g;5g bucket		20-30mils dry	May require fabric reinforcement of changes of plane	Paint on	Film thickness and evenness will affect both water and vapor tightness. One of several similar products from Mapei.

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	Mapelastic™ WSM Sheet	97.5sqft roll			Self-overlap or banding; requires ShowerPerfect™ Hybrid Sealant for seams	Ultraflex™ RS mortar	
Noble	NobleTS™	500ftsq roll	0.15	0.030	NobleSealant 150; NobleWeld 100	Noblebond EXT or latex modified mortar	
	Wall Seal™		0.22/0.42 Depending on test procedure	0.025	NobleSealant 150	NobleBond EXT or latex modfied mortar	Only allowed on walls, not pan or floor
	ValueSeal™	100,300,500sqft rolls	0.84	0.016	NobleSealant 150; latex modified mortar	Noblebond EXT or latex modified mortar	
Schluter	Kerdi™	54, 108, 215,323 sqft rolls	0.90	0.008	Self-overlap or KerdiBand (minimum of 2" overlap)	Unmodified premium mortar	
	KerdiDS™		0.18	0.020			
USG	Durock sheet membrane	75,150,300 sqft rolls	0.075	0.012	Self-overlap or banding (minimum of 2" overlap)	Unmodified premium mortar	

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NOTES

Liquid membranes are typically applied with a wait for the first coat to dry, then a second. It is important to get each coat the proper thickness, and to test that, a wet film gauge is highly recommended because give two people the same brush or roller, and you can get significantly different thicknesses. The water and vapor tests require the total layers be between the min/max for that particular product. Too thin is as bad as too thick. Most of the liquid membranes can bridge a gap up to 1/8", and the addition of reinforcing fabric is optional, but follow the installation instructions, especially on changes of plane.

All of the sheet membranes require an overlap to make the seal (typically, at least 2"). This means every seam is at LEAST two layers thick, with some additional buildup for the adhesive used. Often, in a location like a corner, there is a section that ends up with three layers, which can make setting tile and keeping things flat more of a challenge unless special procedures are taken. This is one area where a liquid membrane can have advantages, but watch out for excess materials and runs or pooling, which may be hard to spot, and are a pain to remove after curing. The thickness of the membrane has little to do with its waterproofing capabilities, but is often (not always!) a rough indication of its vapor proofing capabilities.

TCNA requires a PERM rating of 0.50 or less for a continuous use steam shower, and 0.75 for a residential unit. This is a measure of how much water vapor can move through the membrane at certain temperatures and relative humidity. Not all are suitable for steam shower use, but all listed above are fine for a conventional shower when installed per the manufacturers' installation instructions. A residential steam shower typically isn't used more than a few hours a day, and whatever vapor does penetrate has a chance to evaporate which may not be the case in a commercial unit which may run continuously.

Each product has a timeframe after installation before you can flood test which can range from almost immediately, to many hours, depending on the exact procedure and products used. Same thing for setting tile, the timeframe ranges from no wait to hours.   Failure to abide by the installation instructions can lead to failures in the system.