



SIMPLIFYING PRODUCT REACH

COMPARISON OF SYNTHETIC MEMBRANE LINER SYSTEMS						GENERAL FEATURES COMPARISON		
ITEM	PROPERTY	TEST METHOD	STR (EDPM)	CT (PVC)	CP (HDPE)	TE (HYPALON)	POLYUREAS	PRINCIPAL POLYUREA BENEFITS
1	TENSILE STRENGTH PLI	ASTM D -683	50	97	88	NOT PUBLISHED	426	HIGHER VALUES ARE PREFERRED
2	BREAK ELONGATION %	ASTM D-882	500%	400%	350%	15%	429%	ELONGATION VALUES MUST BE TAKEN INTO ACCOUNT WITH TENSILE, TEAR & DIMENSIONAL STABILITY VALUES. BEST RANGE IS MOST DESIREABLE NOT JUST IN ONE CATEGORY
3	TEAR STRENGTH PLI	ASTM D-624	9	10.5	30	80	755	POLYUREAS ARE MUCH HIGHER
4	PUNCTURE RESISTANCE PSI	ASTM D-4833	35	NOT PUBLISHED	52	24	92	POLYUREAS ARE MUCH HIGHER
5	RESISTANCE TO OZONE	ASTM D-1149	PASS	NOT PUBLISHED	NOT PUBLISHED	PASS	PASS	CRITICAL FACTOR IN EXPOSED CONDITIONS. NOTE THIS IS A 7 DAY TEST
6	LOW TEMPERATURE IMPACT	ASTM D-746	48	-29	-75	-40	-50	COMPARABLE IN THIS TEST METHOD
7	MOISTURE VAPOUR TRANSMISSION	ASTM D-1151	2% MAX	2% MAX	NOT PUBLISHED	NOT PUBLISHED	1% MAX	POLYUREA IS LOWER (PREFERRED)
8	WATER ABSORPTION %	ASTM D-741	8% MAX	2% MAX	NOT PUBLISHED	NOT PUBLISHED	2% MAX	POLYUREA AND PVC ARE COMPARABLE (PREFERRED)
9	HYDROSTATIC RESISTANCE PSI	ASTM DF751(A-1)	NOT PUBLISHED	120	NOT PUBLISHED	250	448	POLYUREA OUT PERFORMS ALL OTHER LINER MATERIAL
10	DIMENSIONAL STABILITY % CHANGE	ASTM E - 96	1% MAX	3% MAX	2% MAX	NOT PUBLISHED	7% MAX	POLYUREA OUT PERFORMS ALL OTHER LINER MATERIAL
11	ABRASION RESISTANCE	TABOR ABRASION C17 WHEEL 1000G 1000 REVS	NOT PUBLISHED	NOT PUBLISHED	NOT PUBLISHED	NOT PUBLISHED	10 GRAMS LOSS MAX	POLYUREA OUT PERFORMS ALL OTHER LINER MATERIAL
12	SHORE "D" HARDNESS	ASTM D2240-81	NOT PUBLISHED	NOT PUBLISHED	NOT PUBLISHED	NOT PUBLISHED	48	POLYUREA OUT PERFORMS ALL OTHER LINER MATERIAL



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ITEM	CHARACTERISTICS	STR (EPDM)	CT (PVC)	CP (HDPE)	TE (HYPALON)	POLYUREAS	PRINCIPAL POLYUREA BENEFITS
1	SOLID CONTENT 100%	NA	NA	NA	NA	YES	100% SOLID AND 100% VOC FREE
2	MONOLITHIC NO LAYERS	NA	NA	NA	NA	YES	NO LAYERS - EVEN FOR REPAIRS OR REMEDIATION
3	SEAMLESS 100%	NO	NO	NO	NO	YES	NO SEAMS - THE ONLY PRODUCT IN THIS COMPARISON THAT AVOIDS THIS FATAL FLAW AND FAILURE POINT
4	APPLICATION SPEED	VERY SLOW	VERY SLOW	VERY SLOW	VERY SLOW	VERY FAST	1500 TO 2000 SQUARE METERS PER DAY NB. WITH PRE-COATED MEMBRANE WE DRAMATICALLY INCREASE THIS RATE.
5	APPLICATION COMPLEXITY	COMPLICATED	COMPLICATED	COMPLICATED	COMPLICATED	SIMPLE	SINGLE APPLICATION USING STATE OF THE ART EQUIPMENT HELPS ELIMINATE ERRORS/FAILURES
6	APPLICATION METHOD	MANUAL	MANUAL	MANUAL	MANUAL	EQUIPMENT	APPLICATION VIA PLURAL COMPONENT EQUIPMENT HELPS ELIMINATE ERRORS/FAILURES
7	MOISTURE SENSITIVITY	ADVERSE ADHESION EFFECT	ADVERSE ADHESION EFFECT	ADVERSE ADHESION EFFECT	ADVERSE ADHESION EFFECT	HYDROPHOBIC 100% INSENSITIVE	MOISTURE HAS NO EFFECT ON ADHESION, CURING OR APPLICATION
8	ADHESION TO CONCRETE	NO CHEMICAL BOND	NO CHEMICAL BOND	NO CHEMICAL BOND	NO CHEMICAL BOND	> 3.5 Mpa	POLYUREA BOND STRENGTH TO CEMENT IS EQUAL TO THE FAILURE LEVEL OF THE CEMENT SUBSTRATE
9	ADHESION TO METALS	NIL	NIL	NIL	NIL	> 20 Mpa	POLYUREA BOND STRENGTH TO STEEL IS EXCEPTIONAL
10	CHEMICAL RESISTANCE	MODERATE	GOOD	GOOD	MODERATE	EXCELLENT	POLYUREAS ARE RESISTANT TO ALKALINE OR ACIDIC CHEMICALS IN MOST SOLUTION UP TO 30% CONCENTRATION LEVELS CUSTOM FORMULATIONS ARE AVAILABLE
11	SOLVENT RESISTANCE	POOR	POOR	POOR	MODERATE	EXCELLENT	POLYUREAS ARE RESISTANT TO MOST SOLVENTS AND OTHER SOLUTIONS CONTAINING HYDROCARBONS
12	ULTRAVIOLET RESISTANCE	VERY POOR	POOR	VERY POOR	POOR	GOOD	POLYUREAS ARE UV RESISTANT - THE COLOUR MAY FADE BUT PROPERTIES WILL BE MAINTAINED
13	CO EFFICIENT OF THERMAL EXPANSION	VERY HIGH	HIGH	VERY HIGH	HIGH	LOW	A HIGH VALUE CREATES STRESS ON THE SEAMS AND REDUCES THE FABRICS ABILITY TO MOVE WITH GRADE CHANGES CAUSING FAILURES
14	REPAIR & MAINTENANCE	COMPLICATED	COMPLICATED	COMPLICATED	COMPLICATED	SIMPLE	CLEAN BY STEAM OR HIGH PRESSURE WATER, CHEMICAL WIPE FOLLOWED BY APPLICATION OF POLYUREA TO SPECIFIED MILS
15	APPLICATION AT CRITICAL INTERFACES	VERY DIFFICULT	VERY DIFFICULT	VERY DIFFICULT	VERY DIFFICULT	SIMPLE	PENETRATIONS, TERMINATIONS & SEAMS ARE ALL COMPLETED IN THE SAME SIMPLE APPLICATION PROCESS INCLUDING TERMINATING AND BONDING TO ADJACENT SUBSTRATES
16	WARRANTY	5 YEARS	7 YEARS	7 YEARS	7 YEARS	20 YEARS	LONGEST DURATION