

**MAJILITE**

## Polyurethane & Leather Comparison

### Polyurethane Preferred in All Categories

**TOUGHER** *Laboratory tests and decades of experience demonstrate that Majilite's polyurethane seating material is more durable. Majilite's brands, including Nytek® with microfiber backing, pass automotive durability tests including the challenging "Jungle Test" of high humidity and heat, several times longer than many leathers (see reverse). Cold temperature performance is also superior. Lifetime stability is uniform with Majilite's polyurethane material, while the stability of leather varies with its heterogeneous fat content, scratches, insects, and other variables. Majilite material is as soft and breathable as leather.*

**COSTS LESS** *While the initial sales price is competitive with leather, polyurethane's uniformity is consistent (see "More Uniform" below), so there is virtually no waste, compared with the 30-40% scrap rate of leather because of shape and imperfections. This makes it easier to match at the time of manufacture and years later for aftermarkets, refurbishments and overhauls. Majilite's polyurethane weighs up to 40% less, so life cycle costing, which takes fuel into account (transportation industries), also favors Majilite's polyurethane.*

**CLEANS EASIER** *Majilite's polyurethane material generally cleans with soap and water and maintains its original look even years later. Maintaining the "like-new" look and feel is less expensive and doesn't require special cleaning methods. Custom polyurethane formulas can further enhance the material's anti-graffiti properties, and can increase its superior scratch resistance. Majilite's polyurethane is also more stain resistant than some leathers, which vary from the epidermal structure of each hide.*

**MORE UNIFORM** *The next best thing to the mythical "Continuous Cow", Majilite's ISO 9001 controlled manufacturing processes produce the world's finest man-made material, free from the stretch marks, color variations, brands, insect blemishes and other unique imperfections that make leather so inefficient. New color formulations are usually matched to the customer's requirements within ten days and color is repeatable year after year. This scientific repeatability is also achieved in Majilite's application of Flame Retardants (FR), Anti-Microbial agents (AM), and other high tech ingredients.*

**MAJILITE: The Premium Interior Surface Material in the Transportation Industry**

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TEST	Test Method	Control (Majilite)	Leather#1 Split/Car	Leather#2 Car/"A"	Leather#3 Truck/"A"	Leather #4 Finished, Full	Leather #5 Corrected	Leather#6 Aniline	Leather #7 Aniline	Comment
WI 14-023 ("Jungle Test")	Gloss (Soak)	E 14 days	P 4 days	P 11 days	E 14 days					1. "Jungle Test" 2. Ratings judged at the end of 14 days: <b>E</b> =Excellent (no change) <b>G</b> =Good (slight change) <b>F</b> =Fair (moderate change) <b>P</b> =Poor (severe change) (test stopped after 14 days.)
	Grain (Hang)	E 14 days	P 16 hours	F 6 days	E 11 days					
	Grain (Soak)	G 6 days	P 16 hours	F 16 hours	E 7 days					
	Color Change (Soak)	E 14 Days	P 16 hours	E 6 days	F 14 days					
	Sample Integrity (Soak)	E 14 Days	P 16 hours	E 11 days	E 14 days					
Weight, gsm	ASTM-D-751-06	395				653	782	1196	1028	<b>Majilite weighs less (1/2 - 2/3X)</b>
Thickness, mil	ASTM-D-751-06	32				45	54	77	75	<b>Majilite is less bulky (1/3 to 1/2 as thick as similar strength leather)</b>
Abrasion CS-10, 2000	ASTM D3884-01, After 2 wks H/C @ 95%RH,70oC	<b>Grade:1</b>				<b>Grade:2</b>	<b>Grade:2</b>	<b>Grade:3</b>	<b>Grade:2</b>	Majilite is superior in Abrasion after 2 weeks
Scuff, 500 cycles	After 2 wks H/C @ 95%RH,70oC	<b>Grade:1</b>				<b>Grade:4</b>	<b>Grade:2</b>	<b>Grade:2</b>	<b>Grade:1</b>	Majilite is superior in Scuff
Color Change DE	After 2 wks H/C @ 95%RH,70oC	<b>0.08</b>				<b>1.36</b>	<b>1.46</b>	<b>4.97</b>	<b>0.8</b>	Majilite is far superior in Color Change. Severe degradation in leathers.
Abrasion CS-10, 2000	After 4 wks H/C @ 95%RH,70oC	<b>Grade:1</b>				<b>Grade:3</b>	<b>Grade:2</b>	<b>Grade:3</b>	<b>Grade:3</b>	Majilite is superior in Abrasion after 4 weeks
Scuff, 500 cycles	After 4 wks H/C @ 95%RH,70oC	<b>Grade:1</b>				<b>Grade:4</b>	<b>Grade:2</b>	<b>Grade:3</b>	<b>Grade:1</b>	Majilite is superior in Scuff
Color Change DE	After 4 wks H/C @ 95%RH,70oC	<b>0.21</b>				<b>0.70</b>	<b>2.50</b>	<b>2.58</b>	<b>0.36</b>	Majilite is far superior in Color Change. Severe degradation in leathers.
Moisture Vapor Transmission	g/m <sup>2</sup> /24 h	897				1069	1258	1460	1818	MVT for vinyl=400 Majilite MVT close to leathers
Color change after Xenon		0.59				1.37	0.58	NA	1.6	Majilite superior
Accelerated Hydrolysis Jar Test		20 days				11 days	2 days	21 days	28 days	Majilite as good as best leathers. (test stopped after 28 days)

Grade: 1=no coating wear, Grade: 2=slight coating wear, Grade: 3=moderate coating wear, Grade: 4=severe coating wear. (Series 2, 2012)