

Lubrizol

PERFORMANCE COATINGS

Aptalon™



NEW TECHNOLOGY
FOR HIGH
PERFORMANCE,
WATER-BORNE
COATINGS



APTALON™
POLYAMIDE
POLYURETHANE
TECHNOLOGY

www.lubrizol.com/aptalon

Aptalon™

Aptalon™ polyamide polyurethane technology is a revolutionary chemistry from Lubrizol that is solving many of today's most demanding coating challenges with exciting new levels of performance and capability. With amazing versatility across a diverse range of surfaces and applications, the opportunities for this unique technology continue to grow. The product family includes purpose-built dispersions to deliver solvent-borne performance in water-borne systems for metal, wood and plastics.



Aptalon Polyamide Polyurethane technology is adaptable to specific application requirements.



KEY BENEFITS

As a market-leading innovator of coating technology, Lubrizol is dedicated to delivering performance, simplicity and sustainability benefits to customers. Aptalon Polyamide Technology is no exception, as it delivers outstanding benefits in each area:

Performance

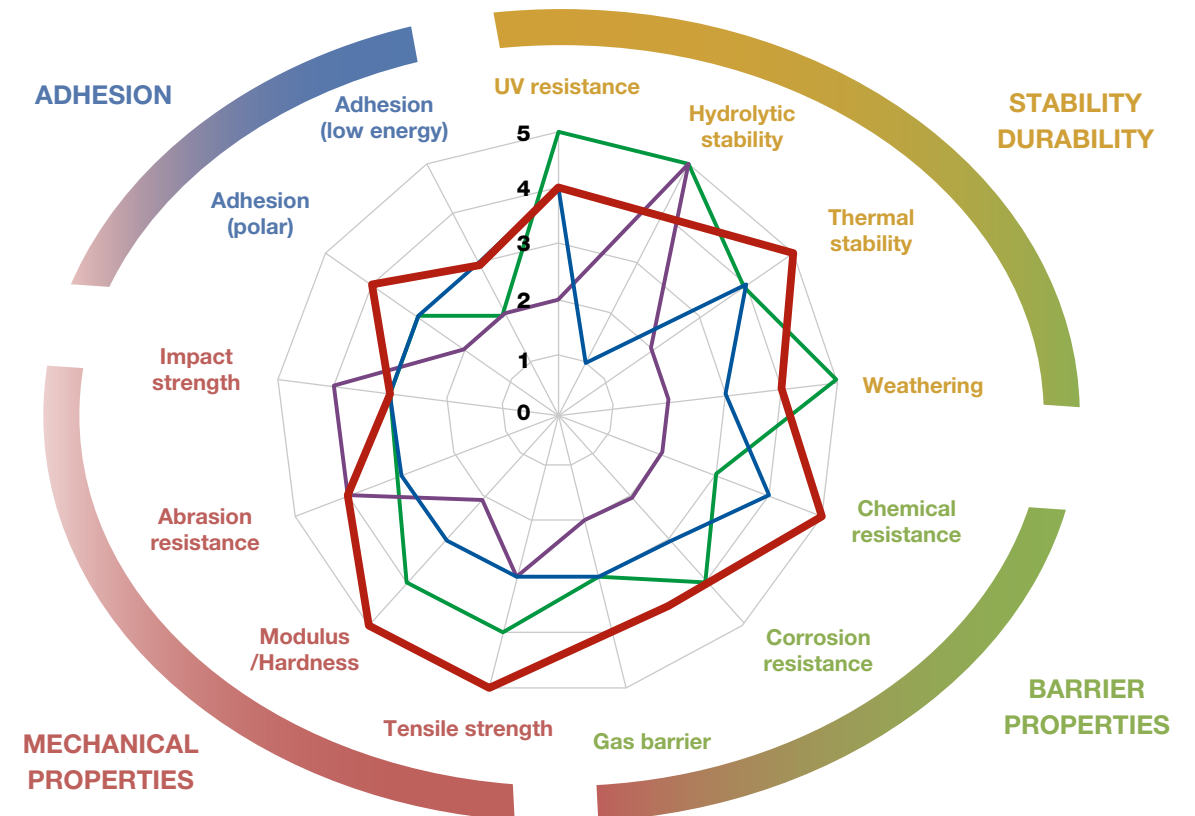
- Very high levels of hardness and toughness means outstanding scratch and mar resistance with decreased frequency of recoating requirements
- Excellent thermal resistance enables use in applications where other polymers fall short
- Powerful chemical resistance brings long-lasting aesthetic appeal with remarkable resistance to staining

Simplicity

- 1K, self-crosslinking system (no mixing required, no chance of mixing errors)
- Easy to achieve various gloss levels without the need for matting additives
- Water-borne system means easy clean-up after application

Sustainability

- High bio-based carbon content
- No potentially hazardous solvents needed to achieve outstanding water-borne performance
- Water-borne rather than a hydrocarbon-based solvent helps to reduce environmental footprint



Aptalon™ polyamide polyurethane technology exhibits excellent performance characteristics and is adaptable to application needs in coatings. In the spider diagram above, higher numbers represent better performance.

- Aptalon™ Polyamide Polyurethane Technology
- Polycarbonate Polyurethane
- Polyether Polyurethane
- Polyester Polyurethane

APTALON™ M8100 FOR PIGMENTED METAL TOPCOAT

Aptalon™ M8100 is designed to deliver very high performance topcoats for paint and coating applications. Aptalon™ M8100 enables high performance one-pack water-based industrial metal coatings with excellent weathering resistance, hardness and chemical resistance beyond other one-pack or two-pack polyurethane chemistries. It protects surfaces from abrasions and marring and works effectively to deter a broad range of aggressive industrial fluids to provide long-lasting appeal and protection.



APTALON™ W8030 FOR SELF-MATTING COATINGS

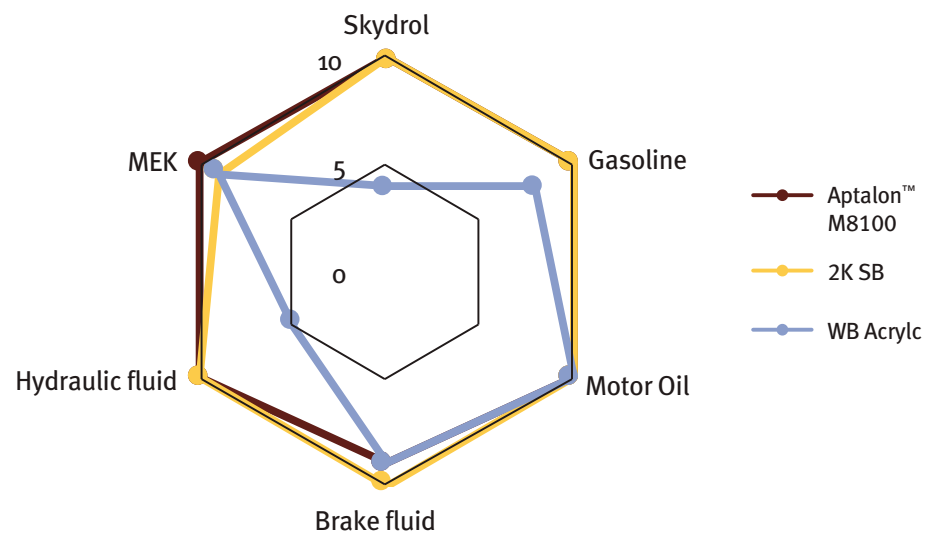
Aptalon™ W8030 is a water-borne self-matting polyurethane dispersion designed to eliminate the need for matting additives typically required in matte topcoats for wood and metal coatings. Coatings formulated with Aptalon™ W8030 demonstrate excellent hardness and abrasion resistance. It has an inherent low gloss that allows natural and matte finishes without sacrificing performance, and can be used with in pigmented or clear coatings.



APTALON™ M8100 PERFORMANCE: TOPCOAT ON PRIMER (METAL) – HUMIDITY CHAMBER

TOPCOAT*		250 h	500 h	750 h	1000 h	1500 h
2K SB Polyurethane	% Blushing	10	10	10	10	10
	Field corrosion	10	10	10	10	10
	Blisters	10	8	8	6	4
Aptalon™ M8100 WB Polyamide Polyurethane	% Blushing	10	10	10	10	10
	Field corrosion	10	10	10	10	10
	Blisters	10	10	10	8	8
SB Alkyd 2K / Epoxy	% Blushing	10	10	10	10	6
	Field corrosion	10	10	10	10	8
	Blisters	10	8	8	8	4

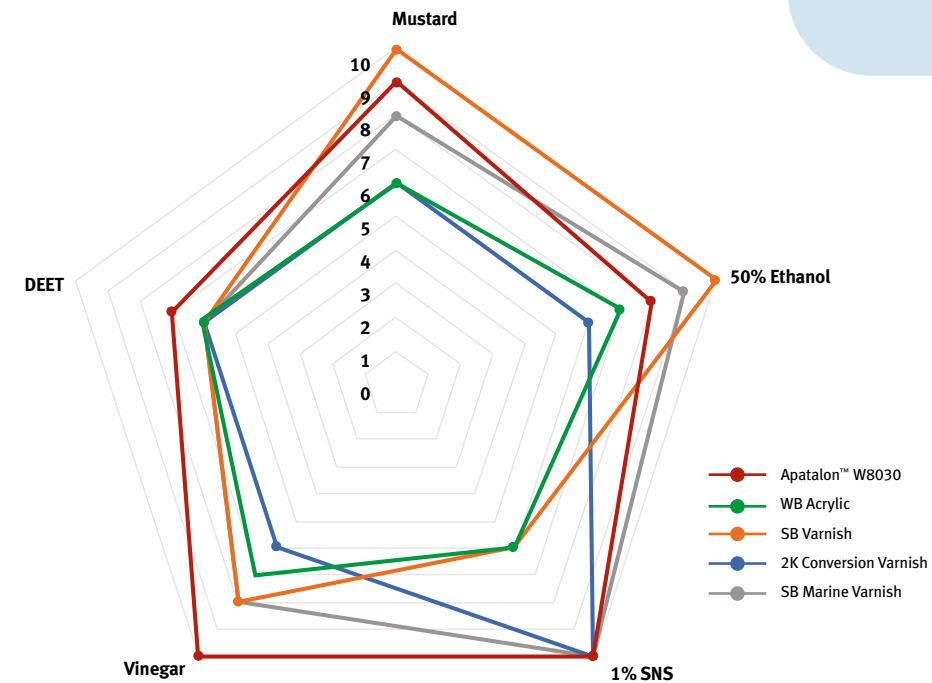
*All topcoats were tested on the same epoxy primer



Aptalon™ M8100 gloss formula and Aptalon™ W8030 formula with no matting additives.

CHEMICAL RESISTANCE

ASTM D1308, 7 days ambient cure (10 designates highest score per chemical)





APTALON™ W8060 FOR HIGH GLOSS WOOD COATINGS

Aptalon™ W8060 is designed for high-performance wood coating and flooring applications in a 1-component, water-borne system that matches the performance and protection of solvent-borne polyurethanes. Aptalon W8060 contains up to 35% bio-based carbon. The advanced resin delivers excellent hydrolysis resistance and chemical resistance that outperforms other water-borne polyurethane chemistries and hardness that meets or exceeds many 2-component water and solvent-borne products.

ASTM G171*	Normal Force	Avg. Scratch Width (um)	Scratch Hardness (Gpass)
Aptalon™ W8060	1N	90.4	0.312
Aptalon™ W8062	1N	107.7	0.220
Commercial WB 2K OMU	1N	108.4	0.217
Commercial WB 2K PUD	1N	123.5	0.167
Commercial WB 1K PUD	1N	136.0	0.138

*Standard Test Method for Scratch Hardness of Materials using a Diamond Stylus.

APTALON™ W8062 PERFORMANCE: WOOD COATING (1K)				
	COMMERCIAL SOLVENT 2K PU	COMMERCIAL SOLVENT 1K	COMMERCIAL WATERBORNE 2K	POLYAMIDE URETHANE 1K
Gloss 60°	103	86	90	92
König Hardness (oscillations)	125	79	36	79
Black Heel Mark	7	9	9	8
Taber Abrasion (mg lost)	132	50	58	45
Chemical Resistance*	106/107	110/110	87/103	104/108

*Sum of 13 Chemicals after 1 hour recovery

1st 2nd 3rd 4th

1K water-borne polyamide polyurethane can match the properties of 2K solvent-borne PUDs

APTALON™ W8062 FOR LOW VOC WOOD COATINGS

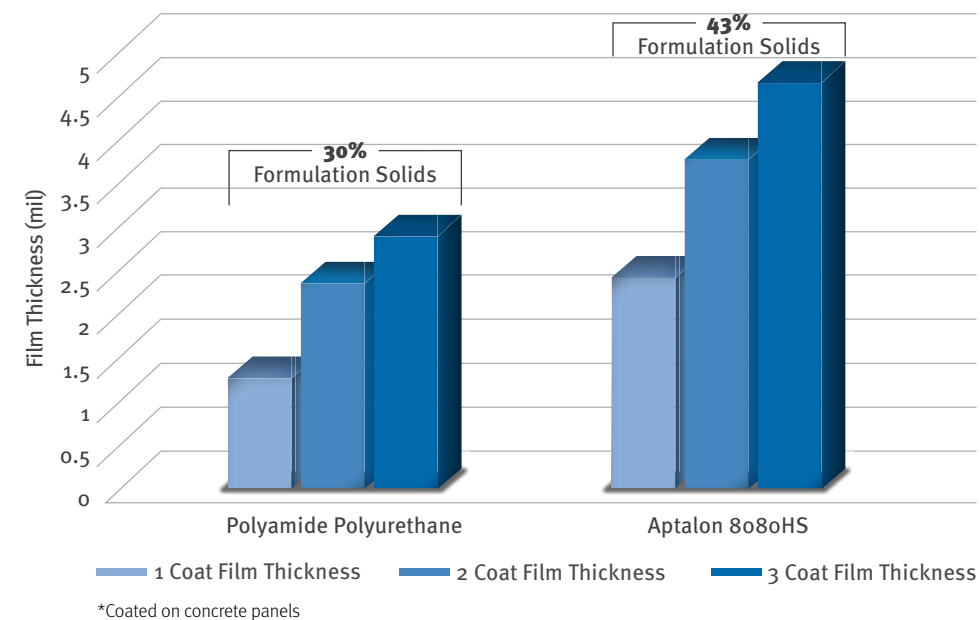
Aptalon™ W8062 is intended for a wide array of coating applications, including high-performance sport and athletic wood floors or high traffic wood flooring applications as it exhibits excellent wear and gloss retention in one-pack water-based formulated coatings.

APTALON™ 8080HS HIGH SOLIDS FOR HARD SURFACE PROTECTION

Aptalon™ 8080HS is a high solids, water-borne polyurethane dispersion for hard surface protection. With 50% solids content, it formulates hard, tough durable films with high gloss, and maintains outstanding chemical and abrasion resistance. With fast dry times and 35% bio-based carbon content, Aptalon™ 8080HS is an advanced technology for protecting wood, concrete and metal surfaces.



Film Thickness Per Coat



Film build thickness of traditional three coat systems achieved in two coats with high solids.

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Aptalon™

New product technologies will continue to emerge from this exciting new polyamide polyurethane chemistry. In the meantime, contact us to discuss your demanding coatings challenges. Let's collaborate on developing the right Aptalon™ Polyamide Technology to address your toughest coating requirements.

WHAT WE ADD MAKES THE DIFFERENCE.™

Lubrizol is a market-driven innovator of specialty chemicals that solve today's challenges in the paints and coatings, printing and packaging, paper and textiles, plastics and composites and digital print markets. More than just a supplier, we are a collaborator with extensive experience in surface protection, dispersion, adhesion and barrier properties that enables us to enhance the performance, simplicity and sustainability benefits of our customers' products. With a commitment to collaboration, applied science, and demonstrated value, our team of experts is dedicated to exceeding customer expectations for both the simplest and toughest requirements. Count on Lubrizol to make the difference.

Lubrizol

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