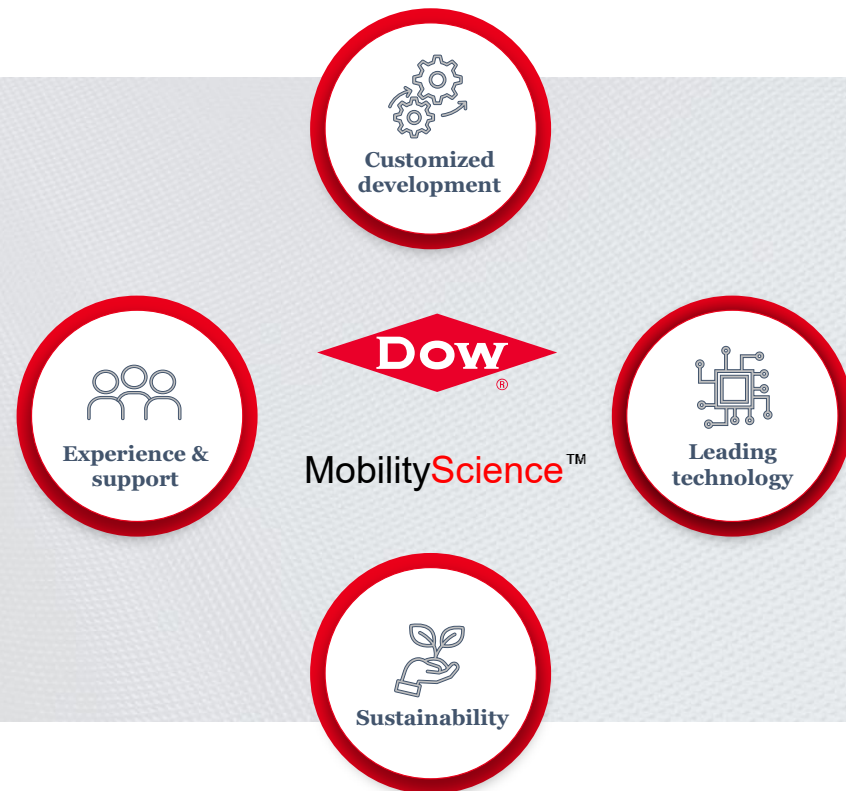




Next Generation DOWSIL™ Adhesives for Demanding Automotive Applications

*Bill Johnson, Technical Service & Development Scientist
Adhesives and Bonding EXPO
June 25, 2025*

MobilityScience™



Working together for a **smarter, safer, cleaner** industry future



Decades of automotive application experience to help you stay ahead of the curve



An industry-recognized technical team with an **80-year history in silicone science**



A collaborative approach to innovation with customized options



Sustainability leadership in climate protection, circular economy & safer materials

Exceptional capabilities in mobility & electronics applications
& moldable optical silicones for lighting

Silicone properties needed in EV (3x more content vs. ICE)

- Disruptive transformation to EV, AV/ADAS; electrification & decarbonization
- Sustainability-driven macro trends



Electronics materials



ELECTRONICS



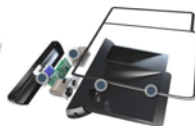
BATTERY



DISPLAYS



LiDAR



CAMERAS



RADAR



CONTROL UNITS



E-MOTOR

Silicone elastomers



SELF-SEALING
TIRES



LuxSense™ SILICONE
SYNTHETIC LEATHER



AIRBAGS



LIGHTING



ELECTRICAL & CABLES

A trend-driven portfolio of innovative silicone materials

Adhesives & sealants

Conformal coatings

Encapsulants & gels

Electrically conductive materials

Thermally conductive materials

Foams

Engineered elastomers

Moldable optical materials

LuxSense™
Silicone Synthetic Leather

Self-sealing tire technology



E-mobility



Silicone adhesives, gels, coatings, foams, elastomers, thermal & EMI materials; 3D printing



Connectivity



Silicone adhesives, gels, coatings, thermal & EMI materials



Autonomy



Silicone adhesives, gels, coatings, moldable optics, thermal & EMI materials



Safety



Airbag silicone coating & bonding; moldable optics for headlamps; self-sealing tire technology



Lightweight



Silicone adhesives, elastomers & foams



Comfort



Silicone leather; moldable optical materials for light guides



**Advance safety,
durability &
visibility**



**Support evolving
technologies**



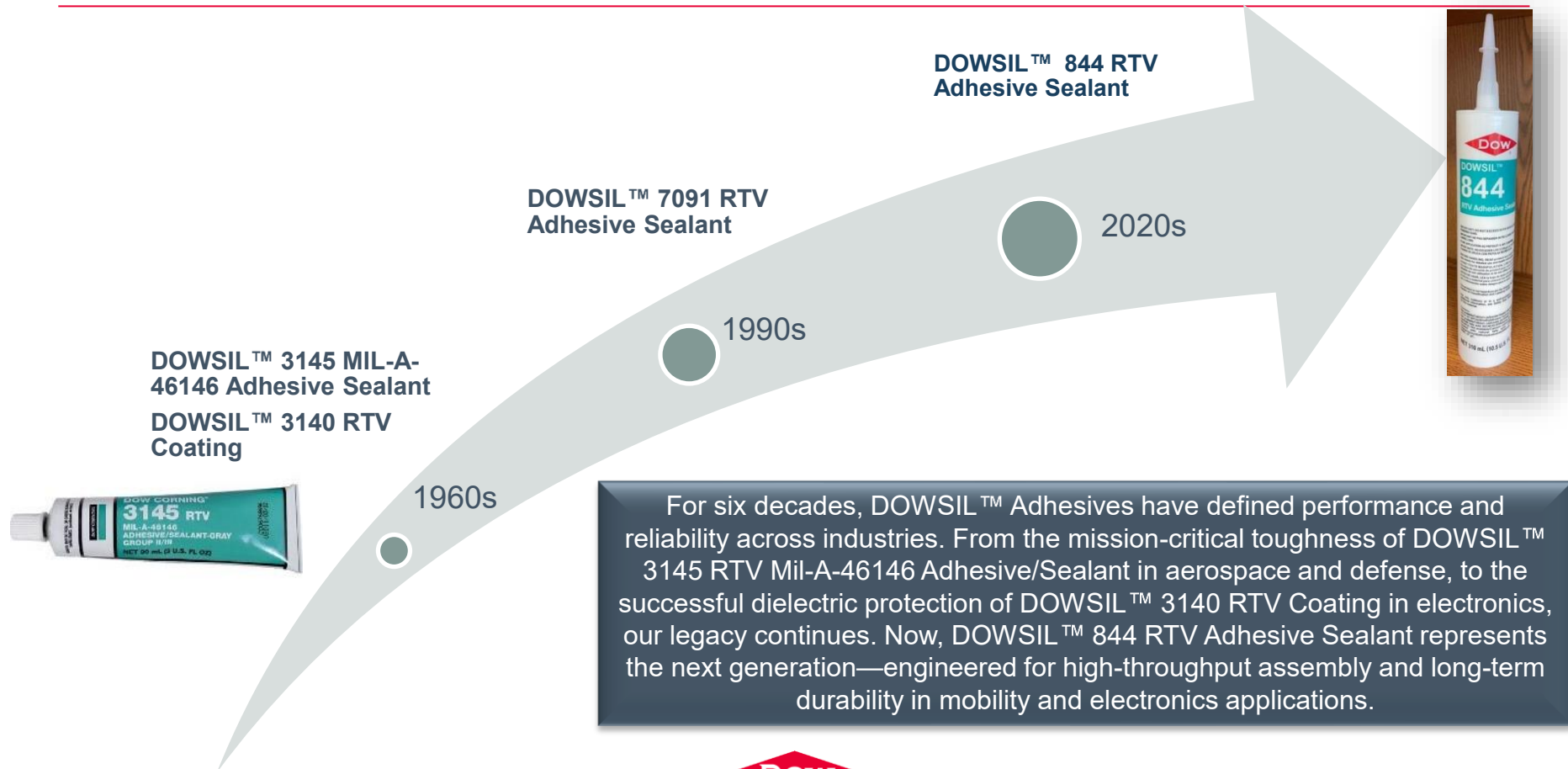
**Support
sustainable
performance**



Seek **Together**™

The Evolution of DOWSIL™ Adhesives for Automotive Performance

HISTORY OF DOWSIL™ RTV ADHESIVES





Seek **Together**™

Innovating Performance: The Latest in DOWSIL™ Adhesive Technology

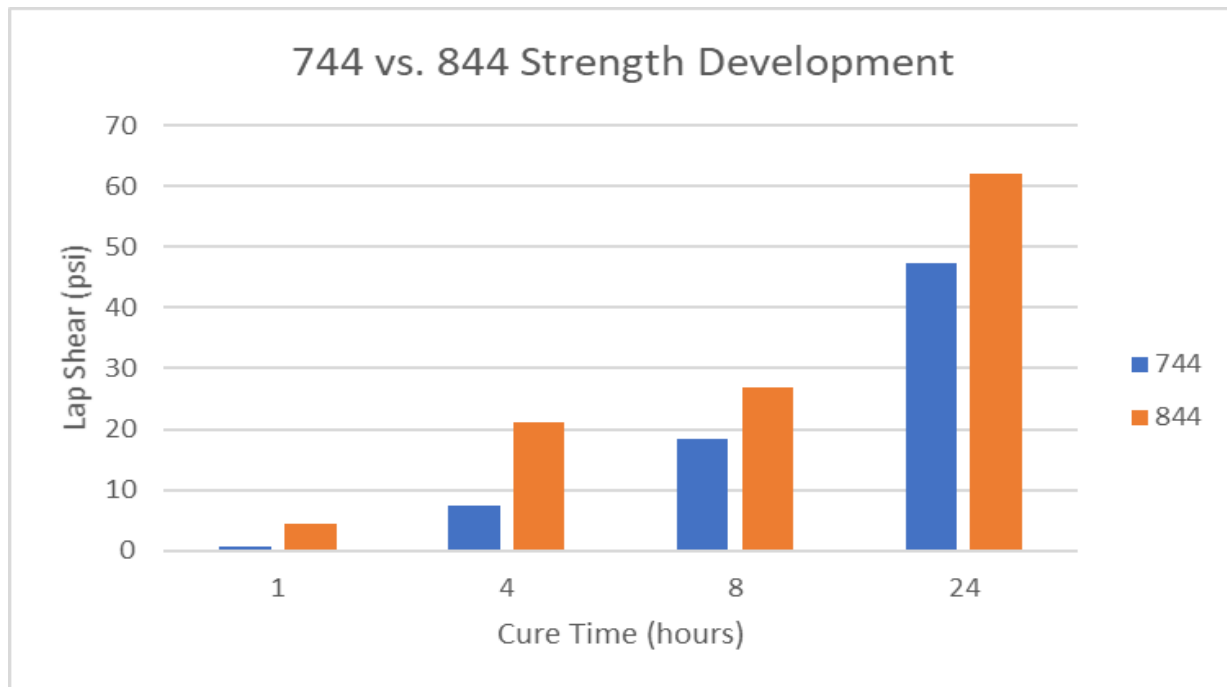
MAJOR GROWTH TRENDS

		Trends	Product needs	DOWSIL™ 844 RTV Adhesive Sealant
	Environmental, health and safety	Safety	Non-flammable components	
		Support reduced energy consumption	Products that eliminate or reduce the need for heat cure	
	High throughput	Consolidation; trends toward more versatile materials that are certified for a wider range of end uses to reduce the number of different products that must be handled at the job site	One product fits all	
	Lower processing costs	Lower energy consumption, reducing the need for heat curing	RTV products	
	Lightweight materials	Increase in demand of adhesive applications in transportation; the trend towards lightweight cars to facilitate wind resistance and enable high speeds	Adhesives with a strong bond to several substrate types, metals and plastics	

DIFFERENTIATED GREEN STRENGTH

- Initial strength development is significantly higher for DOWSIL™ 844 RTV Adhesive Sealant at cure times <24 hours

DOWSIL™ 844 RTV ADHESIVE SEALANT AVERAGES APPROXIMATELY 2-3X THE LAP SHEAR ADHESION STRENGTH IN EARLY CURE TIMES OF <8 HOURS



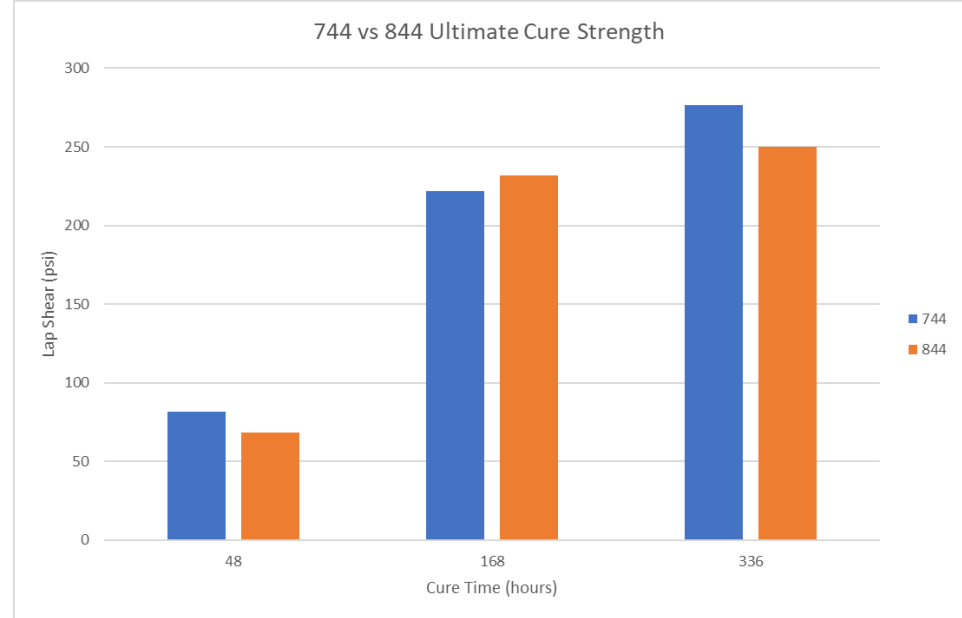
*DOWSIL™ 744 RTV Adhesive Sealant

**DOWSIL™ 844 RTV Adhesive Sealant

***These are typical properties, not to be construed as specifications.

ULTIMATE CURED PROPERTIES

- Similar properties achieved by 48 hours cure time
 - After 48 hours of cure time, DOWSIL™ 744 RTV Adhesive Sealant and DOWSIL™ 844 RTV Adhesive Sealant follow diffusion-limited cure schedules
 - Both products will reach similar ultimate cured physical properties
 - The value of DOWSIL™ 844 RTV Adhesive Sealant is the high green strength in the initial few hours of cure



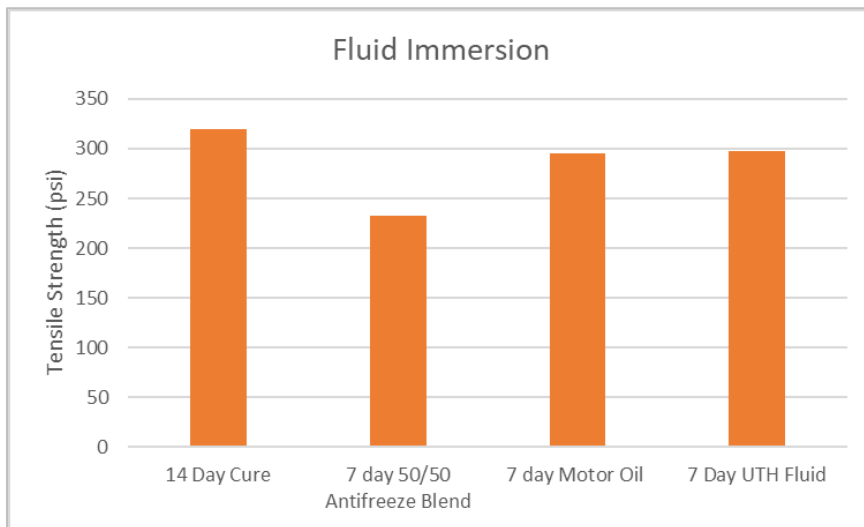
*DOWSIL™ 744 RTV Adhesive Sealant

**DOWSIL™ 844 RTV Adhesive Sealant

***These are typical properties, not to be construed as specifications.

DURABILITY TO FLUID EXPOSURE

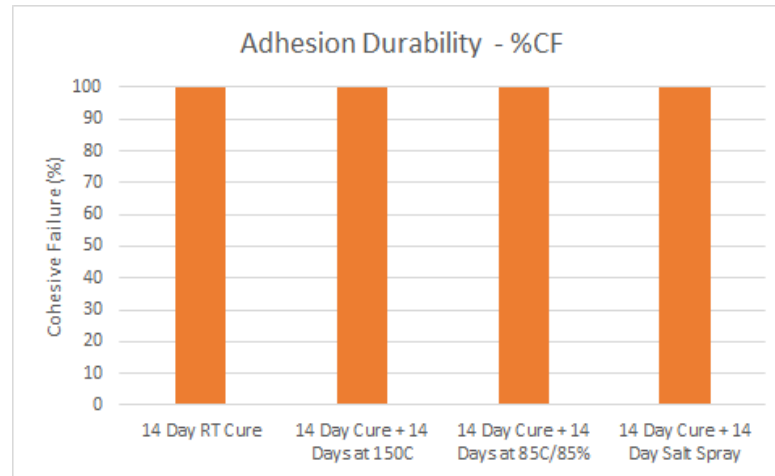
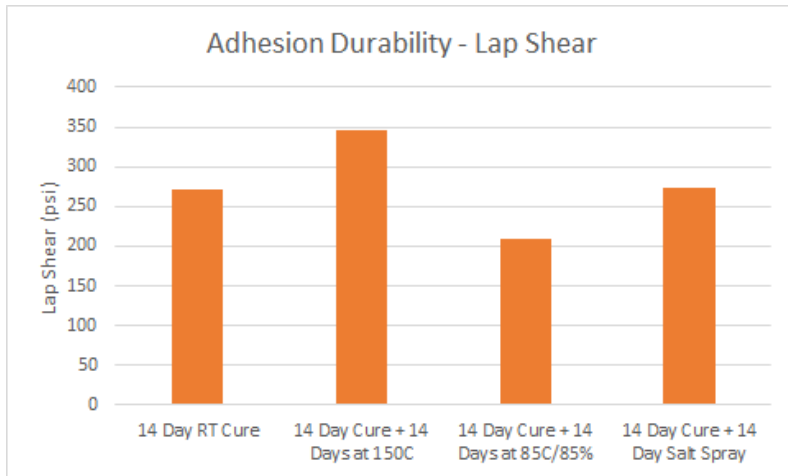
- ASTM D412-style dogbones were aged in several automotive fluids to validate compatibility
- All fluids were held at 125°C for seven days of total exposure time



*These are typical properties, not to be construed as specifications.

DOWSIL™ 844 RTV ADHESIVE SEALANT OFFERS OUTSTANDING DURABILITY

SAME DURABILITY YOU EXPECT, WITH INCREASED CURE RATE



*These are typical properties, not to be construed as specifications.

DON'T TAKE A RISK ON DURABLE ADHESION!



Seek **Together**™

Collaborating for the Future of Automotive Innovation

MATERIAL MODELS FOR FINITE ELEMENT ANALYSIS

- Material cards for DOWSIL™ 844 RTV Adhesive Sealant, and several other adhesives, now available
- Please reach out to your local Dow representative for more information





DOWSIL™ 844 RTV Adhesive Sealant

- Applications requiring strong adhesion durability

- Power electronics
- ADAS technologies
- Gear and part assembly

Don't take a risk on durable adhesion.

DOWSIL™ 844 RTV Adhesive Sealant is a breakthrough technology that uses a first-of-its-kind alkoxy cure formula to help enable higher throughput with durable adhesion

Key benefits:

- **One-part**, non-flowing moisture cure silicone adhesive
- **Fast** cure, fast tack
- High **elongation** for added stress relief
- **Room temperature cure**
- Fast in-line processing with **blowout resistance**
- Neutral **alkoxy** cure
- **Durable adhesion** to wide range of substrates
- Suitable for automated or manual dispensing
- **Resistant** to salt corrosion and UTH fluids



Let's Keep the Conversation Going

Stop by **Ellsworth Adhesives Booth 822** to chat with us about how DOWSIL™ High Performance Silicones can support your applications. We're ready to collaborate.



Seek

Together™



THANK YOU

The information contained in this communication does not constitute an offer, does not give rise to binding obligations, and is subject to change without notice to you. The creation of binding obligations will occur only if an agreement is signed by authorized representatives of Dow and your company. Any reference to competitor materials contained in this communication is not an endorsement of those materials by Dow or an endorsement by the competitor of Dow materials.

To the fullest extent permitted by applicable law, Dow disclaims any and all liability with respect to your use or reliance upon the information. **DOW DOES NOT MAKE ANY WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, WITH RESPECT TO THE UTILITY OR COMPLETENESS OF THE INFORMATION AND DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. DOW DISCLAIMS LIABILITY FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.**

®™Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow.

© 2024 The Dow Chemical Company. All rights reserved.