L&L Products

MARKET FLYER

MARKET
Automotive

VERSION
March 2021

Applied Engineering & Materials Science

For lighter, stronger, quieter vehicles.

For more than 60 years L&L Products has been working closely with the automotive industry to make vehicles lighter, stronger, quieter and safer.

Today we partner most of the world's major automobile manufacturers, many on a global basis.

With our highly specialized product engineers, designers and fabrication personnel, we are able to combine materials science, design engineering, innovation and application understanding in order to develop competitive customized solutions.

In this era of New Mobility and the emergence of electric and autonomous vehicles, L&L Products has introduced many novel materials, processes and applications to address new needs, including heat curing or ambient curing structural / expandable adhesives, lightweight composite reinforcing inserts and components, acoustic countermeasures, sealants and thermal management systems.

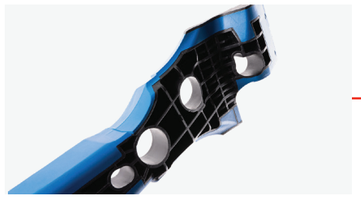
L&L Products

AUTOMOTIVE SOLUTIONS

Torque Retention Isolation Sealing Solutions (TRI-Seal™)

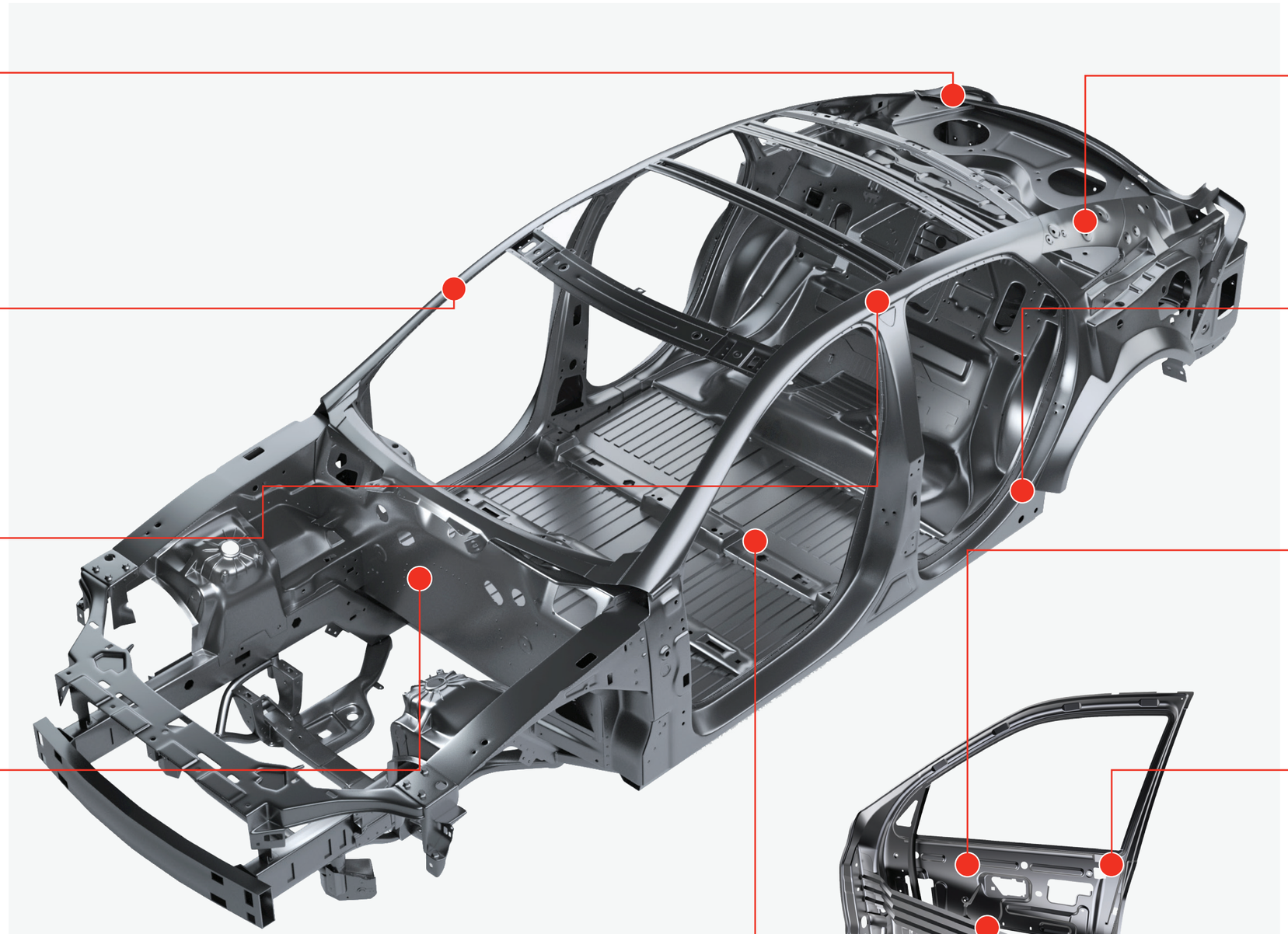
Pressure Sensitive Adhesives

Composite Body Solutions (CBS™)



Engineered Fiber Nonwoven Technology

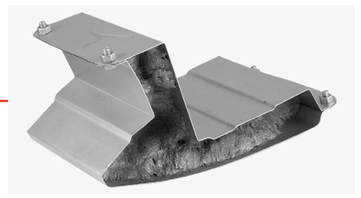
Continuous Composite Systems (CCS™)



Note: the above illustration demonstrates typical applications; however, it should be understood that such products may be similarly applied to other areas of the vehicle.

Structural Adhesive Tapes

Acoustic Sealants



Composite Panel Stiffener

Heat-Activated Sealants

eXtrude-in-Place (XiP)

L&L Products

Engineered Fiber Nonwoven Technology
DECI-TEX® technologies are fiber-based composites designed for superior thermal and acoustic performance. All versions of DECI-TEX® are made to shift the thermal and acoustic landscape by delivering better performance at lighter weights and with less material utilization.

Acoustic Sealants
Our acoustic sealant portfolio comprises both rubber and ethylene-vinyl acetate (EVA) based sealants and are designed to seal a gap between two substrates to prevent intrusion of air, water, dust, fumes, etc. In addition to sealing the body structure, our products provide superior performance for anti-flutter applications.

Structural Adhesive Tapes
L&L develops tacky structural adhesives in tape form that are epoxy-based and heat activated. These adhesive tapes can bond areas where there is limited weld accessibility, varying design gaps, and dissimilar substrates. When bonding dissimilar substrates, the tapes can manage coefficient of thermal expansion differences and prevents galvanic corrosion.

Pressure Sensitive Adhesives
Our pressure sensitive adhesives are epoxy-based, expandable structural adhesives used for structural bonding. Due to their foaming capability, they have the unique ability to provide structural bonding while bridging varying design gaps. The foaming characteristic also enables substrates to be separated, to prevent galvanic corrosion from occurring.

Composite Panel Stiffener
L&L's composite panel stiffeners incorporate a foaming structural adhesive commonly within a high-stiffness fiber reinforcement. It is designed to improve stiffness (lack of panel rigidity leading to "oil canning") and NVH (excessive panel vibration and noise) problems, especially in large or relatively unsupported panels.

Composite Body Solutions (CBS™)
L&L's structural reinforcement technology improves vehicle body structural performance. CBS™ enables weight to be reduced, while maintaining or improving vehicle durability, stiffness, and crash worthiness. One key attribute is localized reinforcement. By locating the solution only where necessary results in lighter and better optimized structures.

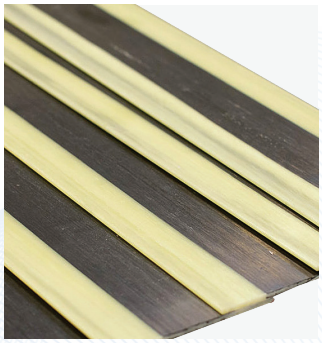
Continuous Composite Systems (CCS™)
Our Continuous Composite Systems (CCS™) are constant cross-section pultruded profiles, designed to provide strength, stiffness, and rigidity to a lightweight structure. Only L&L's CCS™ can couple our superior adhesives to pultruded parts seamlessly in a continuous process, reducing manufacturing costs and time-to-delivery.

Torque Retention Isolation Sealing Solutions (TRI-Seal™)
TRI-Seal™ introduces rigid spheres into expandable sealant materials which are used to seal interfaces where load retention and/or separation of dissimilar materials are important. It is capable of addressing torque retention, isolation at dissimilar material interfaces, and sealing against water, air, and dust intrusion all at the same time.

Heat Activated Sealants
L&L develops both rubber-based and ethylene-vinyl acetate (EVA)-based sealants. Our heat-activated sealants allow for filling and sealing highly complex cavities to prevent water, air, dust and fumes from intruding into the passenger and truck compartments of the vehicle.

eXtrude-in-Place (XiP)
L&L's robotically extruded sealants technology combines our custom formulated chemistry with the capability of a fully automated application process. It involves extruding and applying an L&L formulation directly to a metal substrate by a robot. It offers a high level of repeatability for applications of varying complexity that require extreme precision.



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