

QUALITY PERFORMS.



We make it easy to make things tough
Adiprene® & Vibrathane®

Urethane Prepolymers for hot cast polyurethane applications.

X Adiprene®
Urethane Prepolymers

X Vibrathane®
Urethane Prepolymers

QUALITY WORKS.

LANXESS
Energizing Chemistry

LANXESS

AT THE HEART OF THE CHEMICAL INDUSTRY

LANXESS is a leading global specialty chemicals company with the core business of development, manufacturing and marketing of chemical intermediates, additives, specialty chemicals and plastics. LANXESS is committed to sustainability and is listed in Dow Jones Sustainability Index (DJSI World) and the FTSE4Good.



Specialty chemicals company

- Portfolio: plastics, intermediates and specialty chemicals

Global success story

- 75 sites worldwide
- Approximately 19,200 employees in 29 countries

Strategy of profitability and resilience

- Enhancing our leading position in mid-sized markets

LANXESS URETHANE SYSTEMS

A GLOBAL POLYURETHANE SYSTEMS PROVIDER

LANXESS Urethane Systems is a world leader in polyurethane systems for elastomers, coatings, adhesives and sealants with special focus on solvent-free and low monomer systems, and provides our customers decades of urethane chemistry know-how, comprehensive application expertise, and deep manufacturing experience.



6 production plants globally



7 application development centers globally



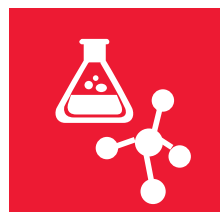
1 world-class R&D center in the USA



>500 products to serve customers' needs



A leading supplier of cast urethane systems globally



>60 years of experience in urethane chemistry



A technology leader in LF technology



~360 employees globally

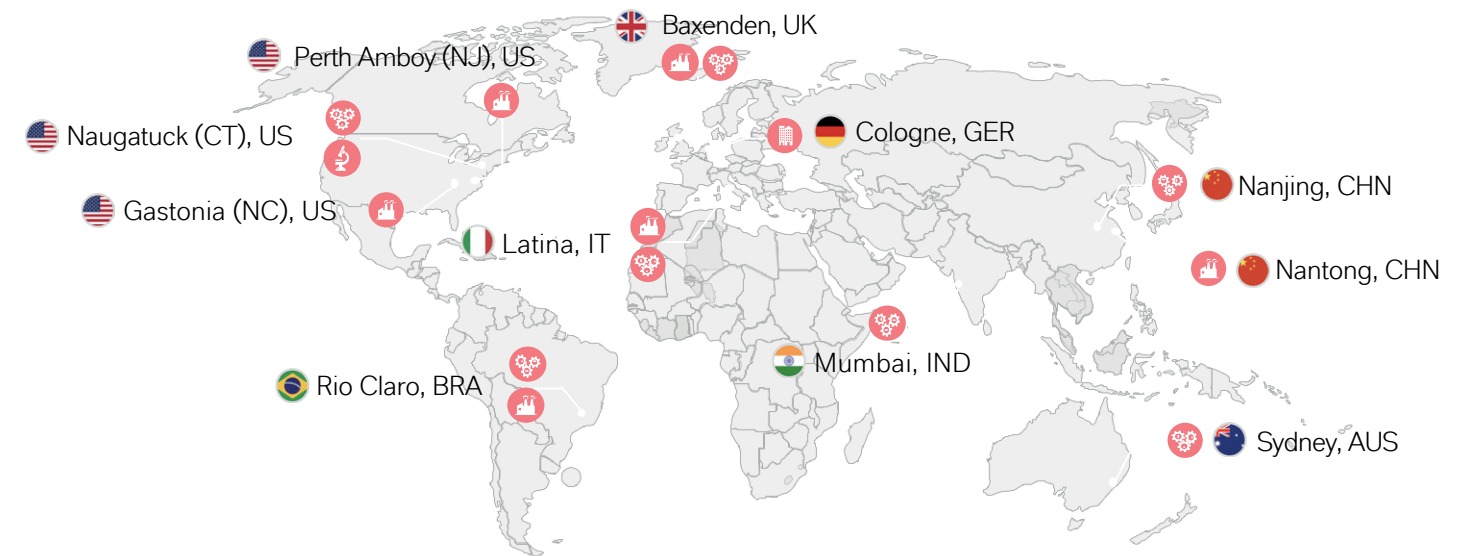
LANXESS URETHANE SYSTEMS FOSTERS INNOVATION THROUGH LEADING R&D AND TECHNICAL CAPABILITIES

GLOBAL CENTER OF INNOVATION EXCELLENCE Naugatuck Technology Center (Connecticut, USA)

- Global R&D and Innovation Center
- Application Development
- Extensive Testing Capability

Application Development Centers in:

- | | |
|--------------------|--------------------|
| Naugatuck, CT (US) | Rio Claro (Brazil) |
| Mumbai (India) | Nanjing (China) |
| Sydney (Australia) | Latina (Italy) |
| Baxenden (UK) | |



- Headquarter
- Plant
- R&D Center
- Application & Development Center

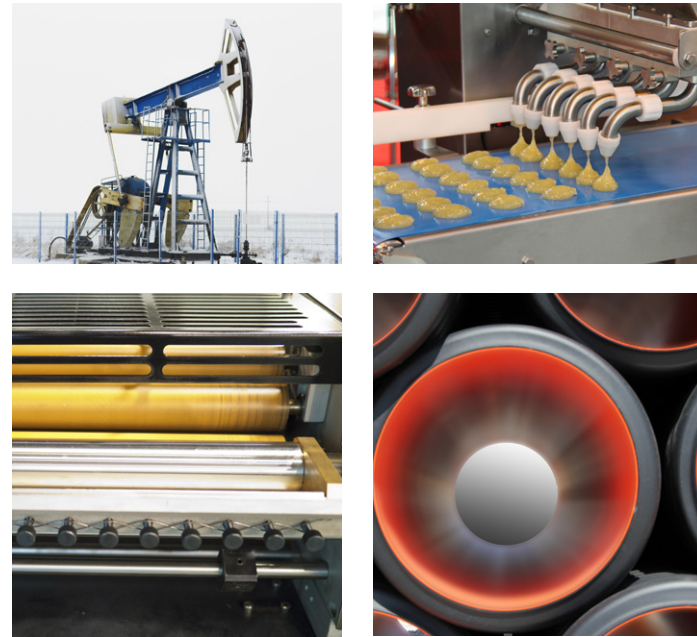


LANXESS CAST ELASTOMERS

HIGH PERFORMANCE PRODUCTS FOR DEMANDING APPLICATIONS

LANXESS cast urethane systems, which include prepolymers, catalysts, and curatives, provide extensive coverage across a large range of demanding applications, from pipe linings and mining screens to roller coaster wheels and golf ball covers.

- Aerospace and Defense
- Agriculture Equipment
- Construction
- Electronics
- Industrial and Mechanical Goods
- Marine
- Metal Fabrication
- Mining
- Oil and Gas
- Paper and Printing
- Recreation and Consumer Goods
- Tires and Wheels
- Transportation



Adiprene® and Vibrathane® urethane prepolymers are known industry-wide for their high quality and performance on the job, delivering outstanding abrasion resistance, toughness and load-bearing capability. LANXESS Urethane Systems is on the leading edge of urethane technology, expanding performance, and extending part life in demanding mechanical applications and in harsh chemical and thermal environments.

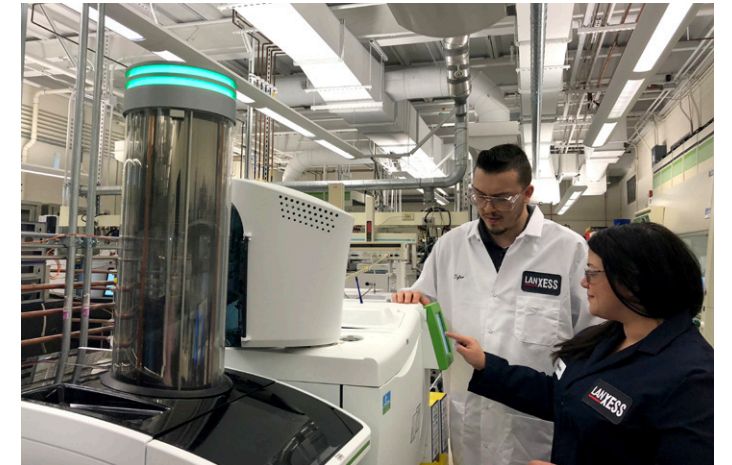
LANXESS offers a wide range of conventional, Low Free (LF) isocyanate, and blocked technologies that enable high performance and processing ease, which makes Adiprene® and Vibrathane® urethane systems an excellent choice to replace steel, plastics, rubber, and other elastomers in high performance applications. Our deep know-how in blocked systems and curing options enables processing in both factory and field settings.

OUR PEOPLE

EXPERTISE TO SOLVE COMPLEX CHALLENGES

Globally integrated and locally available commercial, technical, and research teams provide industry-leading expertise to ensure application success. We work closely with our customers to design the best urethane systems to meet unique performance and processing requirements. We stay close to the market to understand emerging trends and we innovate to deliver the latest technologies.

Our expertise in urethane chemistry, formulation, design, processing and analytics enables our technical teams to provide the best applications development capability, to create valuable new technologies for the most complex challenges, and to tailor new products to meet your needs.



INNOVATION

PRIORITIES TO MEET YOUR NEEDS



We continuously innovate to deliver improved solutions meeting today's demanding industry and customer needs. To guarantee this commitment, we operate a network of industry leading R&D and Application Development Centers around the globe. Our customer-focused priorities are to:

- Broaden the range of Low Free (LF) isocyanate technologies
- Continually improve the environmental, health and safety aspects of using hot cast systems
- Develop systems with improved performance and longer life
- Enable processing advantages to cast polyurethane processors
- Develop and tailor cast urethane systems to replace non-cast materials



GLOBAL CENTER OF INNOVATION EXCELLENCE

LEADING R&D AND APPLICATION DEVELOPMENT CAPABILITY

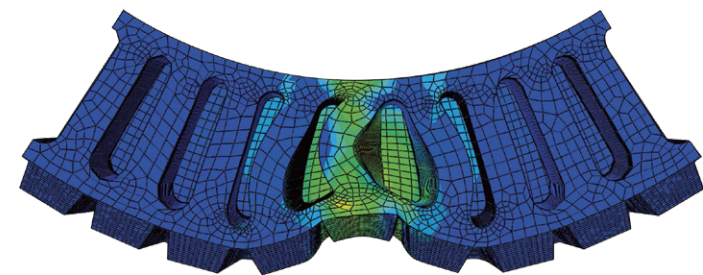
LANXESS urethane systems are helping businesses around the world to improve their product performance and business success. LANXESS has the right castable polyurethane for the job, global technical support and unmatched application experience to ensure your success.

Our most important priority is to support your innovation and help you to be successful. With decades of urethane chemistry and formulation expertise, we understand the synergy between the part design and the physical properties of urethane needed to achieve optimal performance.

Our broad materials toolbox includes:

- **Isocyanates:** TDI, MDI, pPDI, HDI, IPDI, H₁₂MDI
- **Low monomer isocyanates:** LF TDI, LF MDI, LF HDI, LF pPDI, LF IPDI
- **Polyols:** polyester, PTMEG, PPG, PCL, PC
- **Curatives:** diamines, diols, triols, and specialty formulated curatives
- **Additives:** catalysts, antioxidants, plasticizers, flame retardants, pigments, and fillers

Our strong expertise in prepolymer formulation enables us to custom design a prepolymer system using the best combination of raw materials to meet your specific application needs, and we offer part and tool design and processing guidance to help you make flawless parts.



LANXESS has extensive technical and analytical capabilities, with special testing and modeling capabilities for specific cast urethane applications.

- Finite Element Analysis (FEA)
- Computer Aided Design (CAD) modeling
- Closed solution calculations
- Material selection recommendations
- Materials Analysis
- IR
- NMR
- SEM
- GC/MS
- Thermal Analysis (DSC, TGA)
- GPC
- ICP
- Stoichiometry validation
- Physical testing capability
- DMA (dynamics)
- Fatigue resistance analysis (Texus Flex)
- Friction and PV limits under load
- Contamination identification
- Failure analysis

We have developed a proprietary model for wheel design that provides you wheel design and part life guidance considering wheel dimensions, application requirements, environmental conditions, and the inherent flex life and heat build-up properties of the urethane material. This engineering support creates value for both our customers and their end users.

A COMPLETE RANGE OF PRODUCTS

CUSTOM FORMULATED FOR YOU

LANXESS is a leader in urethane elastomer technology - and prepolymer is the key. Instead of using just raw isocyanate and polyol with a curative to create an elastomer, using prepolymer provides the following benefits:

Performance

- Allows for controlling the morphology and achieving enhanced phase segregation of the hard and soft segment domains enabling the creation of high performance materials
- Allows functional groups to be added to the backbone to expand the possibilities and tailor the elastomer performance

Providing urethane in a prepolymer form enables our scientists to tailor the properties, improve the processing consistency, and control the level of free isocyanate for unsurpassed industrial hygiene.

Safety

- Eliminates the handling of raw materials containing elevated levels of hazardous isocyanates
- Enables the creation of low free isocyanate systems that reduce potential exposure to free isocyanates

Quality

- Delivers consistent and reliable elastomers, batch to batch, through more controlled chemical reactions during processing

Note: The following pages show selections from the LANXESS family of cast urethane prepolymers. This stated data has been generated in a laboratory environment and is considered typical. For specific product selection guidance, please contact your sales or technical representative, who will help you select the grades best suited to your needs – or customize one for you.



Conventional MDI and TDI prepolymers

Adiprene® and Vibrathane® MDI and TDI prepolymers can be used with Vibracure® curatives to produce elastomers for a range of demanding applications with outstanding toughness, abrasion resistance, load-bearing capacity, cut resistance, and resistance to heat build-up. Selected applications include:

- Mining components where urethane offers abrasion resistance, weight and noise reduction compared to traditional materials like steel and other elastomeric materials
- Wheels where urethane carries higher loads at higher speeds with lower rolling resistance than other elastomers
- Golf balls where urethane withstands cutting by the club and provides superior distance
- Belting where urethane delivers longer lifetime due to outstanding toughness

Adiprene® and Vibrathane® MDI and TDI prepolymers are available with a wide range of polyol backbones. LANXESS scientists can work with you to customize a special formulation to achieve your ideal performance.

Adiprene® TDI Urethane Prepolymers – Selected Grades

Product Grade	Polyol	NCO%	Hardness	
			Vibracure® 2107 curative	Vibracure® A 133 HS curative (MOCA ¹)
Adiprene® L42	polyether	2.65-2.95	78A	80A
Adiprene® L83	polyether	3.20-3.40	85A	83A
Adiprene® L100	polyether	3.95-4.30	90A	90A
Adiprene® L167	polyether	6.15-6.55	95A	95A
Adiprene® L200	polyether	7.30-7.70		58D
Adiprene® L315	polyether	9.25-9.65	76D	73D
Adiprene® L325	polyether	8.95-9.25	72D	72D
Vibrathane® 6007	polyester	4.00-4.52	95A	
Vibrathane® 8011	polyester	3.17-3.43	81A	84A
Vibrathane® 8083	polyester	3.20-3.50	83A	84A
Vibrathane® 8050	polyester	5.40-5.80		50D
Vibrathane® 8070	polyester	2.55-2.70		70A
Vibrathane® 8090	polyester	4.35-4.75		90A
Vibrathane® 8096	polyester	3.75-4.05		88A
Vibrathane® 9087	polyester	3.17-3.43	84A	
Vibrathane® 6060	polycaprolactone	3.20-3.50	73A	62A

¹ Note: For use outside of the European Union

Vibrathane® MDI Urethane Prepolymers – Selected Grades

Product Grade	Polyol	NCO%	Hardness
			1,4 Butane diol curative (BDO)
Vibrathane® B625	polyether	6.09-6.56	85A
Vibrathane® B635	polyether	7.70-8.10	90A
Vibrathane® B670	polyether	10.91-11.51	53D
Vibrathane® B821	polyether	7.12-7.64	90A
Vibrathane® B836	polyether	8.65-9.05	95A
Vibrathane® B875	polyether	8.80-9.20	95A
Vibrathane® 6020	polyester	6.55-6.85	85A
Vibrathane® 7085	polyester	6.85-7.15	85A
Vibrathane® 8007	polyester	10.64-11.36	62D
Vibrathane® 8010D	polyester	9.19-9.59	95A
Vibrathane® 8030	polyester	5.80-6.20	80A
Vibrathane® 8045	polyester	9.60-10.00	95A
Vibrathane® 8094	polyester	8.10-8.40	94A
Vibrathane® 8522	polyester	7.50-7.80	90A
Vibrathane® 8526	polyester	6.65-7.05	86A
Vibrathane® 8585	polyester	6.50-6.90	85A
Vibrathane® MSR	polyester	2.80-3.60	90A
Vibrathane® MT2S	polyester	6.60-6.90	90A
Vibrathane® MT3S	polyester	7.55-7.85	90A



LOW FREE (LF) ISOCYANATE PREPOLYMERS

EXPANDING POSSIBILITIES FOR CAST ELASTOMERS



LANXESS is a leading innovator in the development of Low Free (LF) isocyanate technology which brings unparalleled performance and industrial hygiene to cast elastomers, coatings, and adhesives applications. LF urethane prepolymers minimize exposure to free isocyanate, a subject of increasing regulatory focus. LANXESS is the only manufacturer offering LF urethane prepolymers with levels of free isocyanate below 0.1% across a wide range of chemistries, including TDI, MDI, pPDI, IPDI, and HDI, and are constantly working to broaden this offering even further.

Unsurpassed industrial hygiene

Adiprene® LF prepolymers have low free monomer content for improved industrial hygiene during handling and processing. These prepolymers protect workers and users from potential exposure to residual isocyanate, minimize EH&S workload, and can result in systems with reduced hazard classifications.

Excellent performance

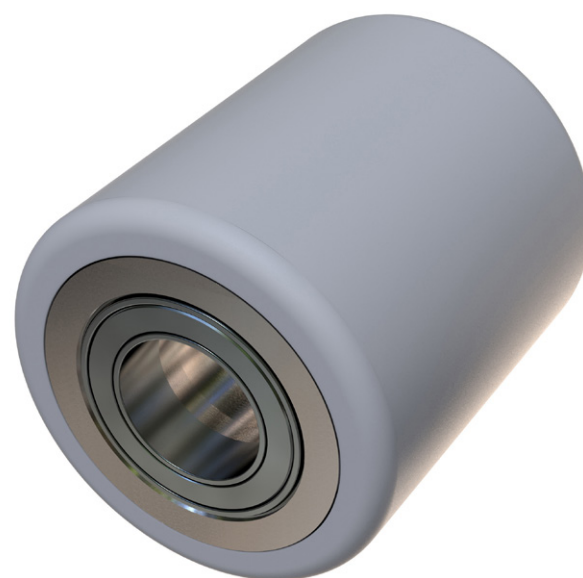
Adiprene® LF prepolymers are chemically structured to provide superior performance, including excellent toughness, fatigue resistance, longer lifetimes when exposed to extreme conditions of temperature and chemicals, and low hysteretic heat build-up for dynamic applications.

These prepolymers are used in the most extreme environments including oil and gas, wheels and tires, and mining applications, along with many other uses in construction, agriculture, automotive, electrical, office equipment and personal care.

Superior Processing & Productivity

Adiprene® LF prepolymers enable you to streamline your manufacturing processes. With the ability to achieve lower viscosity than conventional alternatives, they can minimize the use of solvents and may be specially formulated for processing at ambient temperature.

Specific processing benefits include prepolymers with lower viscosity, longer pot life and faster demolding with a range of curatives and catalysts to enable very high productivity.



Adiprene® LF TDI systems for easy processing and excellent industrial hygiene

Adiprene® LF TDI prepolymers take conventional TDI technology to the next level of performance and safety. By reducing free TDI levels to below 0.1%, these systems greatly improve workplace industrial hygiene and enable the use of PU prepolymer systems with lower viscosity, longer pot life, and faster demolding. Adiprene® LF TDI systems offer strong performance and easy processing for a wide range of applications.

Compared to conventional prepolymers LF TDI prepolymers provide:

- Reduced free TDI levels (<0.1%) greatly improve workplace safety
- Lower process viscosity reduces bubble entrapment making mixing easier
- Longer pour life allows mixed material to properly fill molds and reduce rejects
- Faster demolding improves productivity and reduces costs

Adiprene® LF TDI prepolymers are available with a wide range of polyol backbones. LANXESS scientists can work with you to customize a special formulation to achieve your ideal performance.

Adiprene® LF TDI Urethane Prepolymers – Selected Grades

Product Grade	Polyol	NCO%	Hardness	
			Vibracure® 2107 curative	Vibracure® A 133 HS curative (MOCA ¹)
Adiprene® LF 800A	polyether	2.75-3.05	80A	80A
Adiprene® LF 900A	polyether	3.70-3.90	88A	90A
Adiprene® LF 930A	polyether	4.90-5.20	94A	94A
Adiprene® LF 940A	polyether	5.20-5.45	95A	94A
Adiprene® LF 950A	polyether	5.90-6.20	97A	95A
Adiprene® LF 600D	polyether	7.10-7.40	60D	60D
Adiprene® LF 601D	polyether	7.05-7.35	62D	60D
Adiprene® LF 650D	polyether	7.55-7.85		65D
Adiprene® LF 700D	polyether	8.10-8.40	72D	70D
Adiprene® LF 750D	polyether	8.75-9.05	75D	75D
Adiprene® LF 751D	polyether	8.90-9.20	75D	75D
Adiprene® LFG 963A	PPG polyether	5.55-5.85		96A
Adiprene® LFG 964A	PPG polyether	5.80-6.20		96A
Adiprene® LFG 740D	PPG polyether	8.65-9.05		75D
Adiprene® LF 1700A	polyester	2.28-2.58	73A	73A
Adiprene® LF 1750A	polyester	2.45-2.75		76A
Adiprene® LF 1800A	polyester	3.15-3.35	85A	83A
Adiprene® LF 1860A	polyester	3.55-3.85	89A	86A
Adiprene® LF 1900A	polyester	4.05-4.35	92A	92A
Adiprene® LF 1930A	polyester	4.75-5.05	95A	93A
Adiprene® LF 1950A	polyester	5.24-5.54	98A	95A
Adiprene® LF 1600D	polyester	6.10-6.40		60D
Adiprene® LF 2600A	polycaprolactone	3.10-3.50		60A

¹ Note: For use outside of the European Union

Adiprene® LF MDI prepolymers for excellent performance and easy processing

Adiprene® LF MDI prepolymers provide significant health and safety advantages due to low free isocyanate levels and the ability to cure with diols, in addition to a range of other suitable curatives. This ground-breaking innovation enables customers to pour parts with outstanding dynamic performance, excellent retention of properties, and high load bearing capabilities. Adiprene® LF MDI prepolymers demonstrate significant improvement in performance, processing, and industrial hygiene.

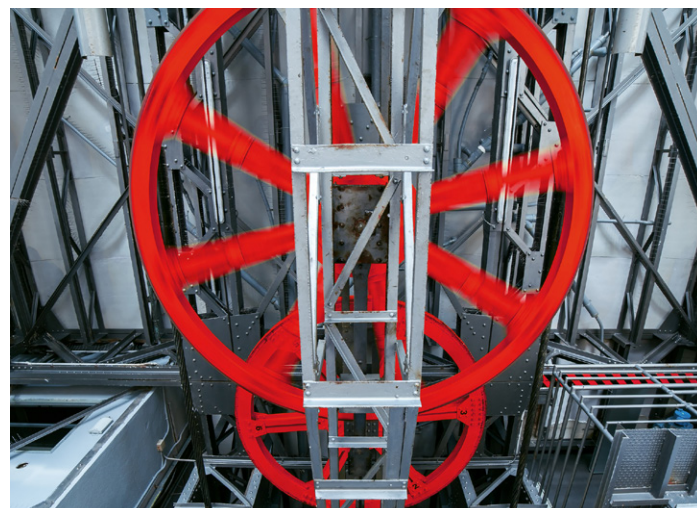
Complete LF MDI-based urethane systems, including the prepolymer, curative, and catalyst, can be designed with reduced hazard classifications. Compared to conventional prepolymers, the benefits of Adiprene® LF MDI prepolymers include:

- Reduced free MDI levels (in some cases <0.1%) greatly improve workplace safety
- Curing with **Vibracure® 2101** offers a strong alternative to MOCA
- Lower viscosity for easier mixing and pouring
- Longer pour life, enabling the casting of very large and complex parts
 - Up to 8 minutes with **Vibracure® 2101**
 - Hours or days with **Duracure™ blocked curatives**¹
- Catalysts to achieve very high productivity
- Processing using either hand batching or meter-mix machines
- Faster demolding improves productivity and reduces costs

¹ Note: For use outside of the European Union

Adiprene® LF MDI elastomers offer outstanding dynamic performance with lower hysteretic heat build-up that extends product life, in combination with excellent retention of modulus at high temperature, and high load bearing capabilities.

Adiprene® LF MDI prepolymers are available with a wide range of polyol backbones. LANXESS scientists can work with you to customize a special formulation to achieve your ideal performance.



Adiprene® LF MDI Urethane Prepolymers – Selected Grades

Product Grade	Polyol	NCO%	Hardness	
			Vibracure® 2101 curative	Duracure™ blocked curatives ¹
Adiprene® LFM E265	polyether	2.50-2.80	80A	
Adiprene® LFM E295	polyether	2.80-3.10	86A	
Adiprene® LFM E320X	polyether	3.00-3.40		90A
Adiprene® LFM E370	polyether	3.50-3.90	90A	
Adiprene® LFM E450	polyether	4.30-4.70	93A	
Adiprene® LFM E500	polyether	4.80-5.20	95A	
Adiprene® LFM E500X	polyether	4.80-5.20		95A
Adiprene® LFM E615	polyether	5.95-6.35	55D	
Adiprene® LFM E615X	polyether	6.00-6.30		53D
Adiprene® LFM E730	polyether	7.15-7.55	60D	
Adiprene® LFM E760	polyether	7.40-7.60	73D	
Adiprene® LFM S183X	polyester	1.70-1.95		70A
Adiprene® LFM S223X	polyester	2.10-2.35		80A
Adiprene® LFM S265X	polyester	2.50-2.80		85A
Adiprene® LFM S350X	polyester	3.35-3.65		89A
Adiprene® LFM S430	polyester	4.10-4.50	90A	
Adiprene® LFM C350X	polycaprolactone	3.30-3.70		90A
Adiprene® LFM C525	polycaprolactone	5.05-5.45	96A	
Adiprene® LFM C700X	polycaprolactone	6.80-7.20		60D
Adiprene® S930 ²	polyester	4.11-4.41		93A
Adiprene® C930 ²	polycaprolactone	4.35-4.65		93A
Adiprene® C950 ²	polycaprolactone	4.90-5.30		95A

¹ Note: For use outside of the European Union

² Note: Contains >1% free MDI



Adiprene® pPDI and LF pPDI urethane prepolymers for excellent performance in extreme environments

Adiprene® pPDI and LF pPDI urethane prepolymers, the latter with <0.1% free isocyanate, offer elastomers designed to withstand extreme conditions, where excellent resistance to high and low temperature, water, and chemicals is critical to performance and long part life. They are often used in dynamic applications because of their long life with very low heat build-up from hysteresis and superior fatigue resistance.

Selected Adiprene® pPDI and LF pPDI prepolymers can outperform hydrogenated nitrile butadiene rubber (HNBR) at temperatures as high as 150°C (302°F), opening new application opportunities with performance beyond typical polyurethane elastomers.

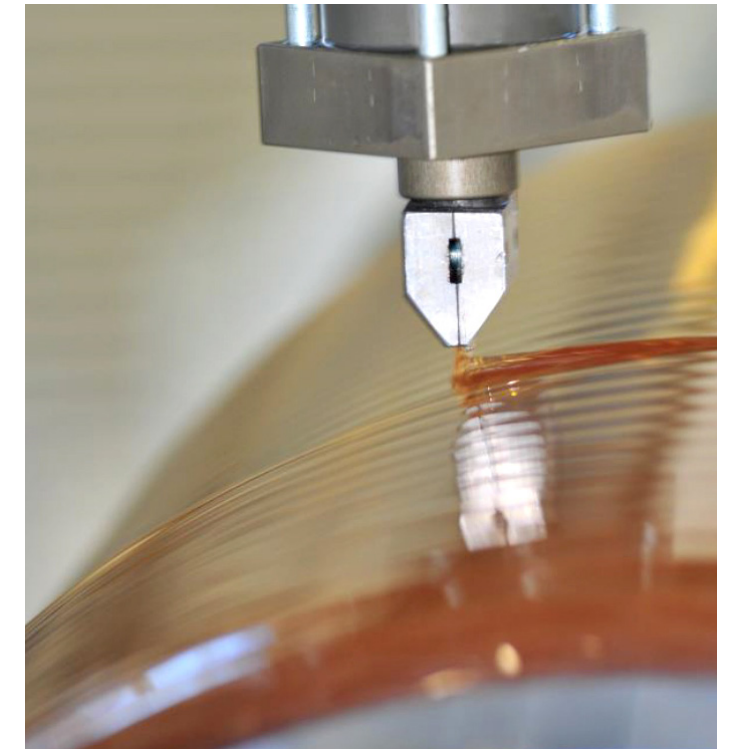
Adiprene® pPDI (conventional) and LF pPDI (low free) prepolymers are available with a wide range of polyol backbones. LANXESS scientists can work with you to customize a special formulation to achieve your ideal performance.



Adiprene® Ribbon Flow® rotational cast prepolymers for fast, efficient roll covering

Adiprene® Ribbon Flow® systems are highly reactive and designed for use with a meter mix machine and a roll rotating mechanism to apply the urethane coating directly to the roll core (or other cylindrical object) without the need for a mold. The material cures on the rotating core as it is applied and the mix head of the meter mix machine slowly traverses the length of the core until the coating is complete. Adiprene® Ribbon Flow® prepolymers can be applied in coatings up to 40mm per pass and deliver tooling savings (no molds), reduced waste, improved productivity and lower production cost than conventional casting.

Adiprene® Ribbon Flow® rotational cast urethane prepolymers are available in both conventional and LF (low-free), in single pass, multiple pass, 2K and 3K systems with various chemistries. LANXESS scientists can work with you to customize a special formulation to achieve your ideal performance.



Adiprene® pPDI and LF pPDI Urethane Prepolymers – Selected Grades

Product Grade	Polyol	NCO%	Hardness	
			Vibracure® 2101 curative	Vibracure® A250 curative
Adiprene® LFP E255	polyether	2.40-2.70		88A
Adiprene® LFP E410	polyether	3.95-4.25		95A
Adiprene® LFP E560	polyether	5.45-5.75		96A
Adiprene® LFP E740	polyether	6.80-7.60		60D
Adiprene® LFP S310	polyester	2.95-3.25		94A
Adiprene® LFP C380	polycaprolactone	3.65-3.95	94A	95A
Adiprene® LFP R375	polycarbonate	3.50-4.00	94A	95A
Adiprene® LFP R590	polycarbonate	5.60-6.20	62D	
Adiprene® PP 150H	polyether	6.10-6.50		97A
Adiprene® PP 1095H	polyester	3.20-3.60		95A
Adiprene® PP 1096H	polyester	3.85-4.20		95A

Adiprene® Ribbon Flow® Rotational Cast Prepolymers – Selected Grades

Product Grade	Polyol	NCO%	Hardness		
			Adiprene® Ribbon Flow® RFB Series curatives	Adiprene® Ribbon Flow® SP Series curatives	Adiprene® Ribbon Flow® LM B229E & LM B136E curatives
Adiprene® Ribbon Flow® LMA1615E	polyether	5.95-6.35			70-95A
Adiprene® Ribbon Flow® SPA2000	polyether	11.25-11.51		70-95A	
Adiprene® Ribbon Flow® RFA1000	polyether	11.25-11.51	90A-67D		
Adiprene® Ribbon Flow® RFA1001	polyether	6.10-6.50	70-95A		

Note: please ask your LANXESS technical contact for help with curative selection to design your optimum system.

Adiprene® aliphatic urethane prepolymers for outstanding weatherability and aesthetics

Our aliphatic Adiprene® LF HDI, LF IPDI, and H₁₂MDI prepolymers offer excellent physical properties for applications requiring UV stability and weatherability. Adiprene® LF HDI technology enables processors to make elastomers that they won't make with conventional HDI due to volatility concerns. Adiprene® LF IPDI technology enables excellent aesthetics and weatherability for elastomers, adhesives and coatings. Adiprene® LW conventional H₁₂MDI prepolymers have excellent resistance to hydrolysis at elevated temperatures.

Adiprene® Aliphatic Urethane Prepolymers – Selected Grades

Product Grade	Polyol	NCO%	Hardness			
			1,4 Butanediol curative	Vibracure® A 133 HS curative (MOCA ¹)	MCDEA curatives	Ethacure curatives
Adiprene® LFH E520	polyether	5.00-5.40	48D			
Adiprene® LFH E710	polyether	6.80-7.40	58D			
Adiprene® LFH E1192	polyether	11.50-12.30	65D	70D		
Adiprene® LFH S565	polyester	5.30-6.00	52D			
Adiprene® LFH C840	polycaprolactone	8.20-8.60				55D
Adiprene® LFH R600	polycarbonate	5.60-6.40			55D	
Adiprene® LFH R905	polycarbonate	8.70-9.40		70D	70D	
Adiprene® LW 520	polyether	4.60-4.90				95A
Adiprene® LW 570	polyether	7.35-7.65	93A	73D		70D

¹ Note: For use outside of the European Union



Adiprene® blocked urethane prepolymers enable processing flexibility

Adiprene® blocked urethanes are based on a technology to control the cure of urethane elastomers. This technology effectively blocks the curing reaction until it is heat activated at the optimum time in the process. This enables the pouring of large and complex parts, and even facilitates the use of hand batching. Blocked systems can be processed with curatives that would otherwise be too fast for traditional unblocked prepolymers, but that provide toughness and other properties not achievable with standard curatives. By starting with LF MDI technology, blocked LF MDI prepolymers have lower viscosity and low melting point to further improve processing.

Adiprene® blocked urethane prepolymers are available in both conventional and LF (low free) chemistries, with various polyols and blocking agents. LANXESS scientists can work with you to customize a special formulation to achieve your ideal performance.

Adiprene® Blocked Urethane Prepolymers – Selected Grades

Product Grade	Chemistry	NCO%	Deblock Temperature	Hardness	
				no additional curative needed	Duracure™ C3 MDA blocked curative ¹
Adiprene® BL 16	TDI	5.30-5.80	100-130°C (212-266°F)		92A
Adiprene® BL 46	TDI	6.70-7.05	100-130°C (212-266°F)		75D
Adiprene® BLM 500	LF MDI	4.17-4.63	100-130°C (212-266°F)		97A
Adiprene® KLFM E820	LF MDI ether	3.50-3.90	180°C (356°F)	82A	

¹ Note: For use outside of the European Union



Royalcast® Urethane Systems are castable plastics for tough, impact-resistant rigid applications

Royalcast® urethane systems are castable plastics that provide the hardness, toughness and impact resistance of many engineering plastics in a two-component urethane system. Unlike thermoplastic engineering plastic materials, the low tooling costs and ease of use make Royalcast® urethane systems the economical choice for low volume production.

Royalcast® urethane systems vary from clear to opaque white and are easily pigmented. The high modulus materials range in hardness from 77D to 85D and have heat deflection temperatures as high as 107°C (225°F). LANXESS scientists can work with you to customize a special formulation to achieve your ideal performance.

Royalcast® Urethane Systems – Selected Grades

Product Grade	NCO%	Hardness			
		Vibracure® A 133 HS curative (MOCA ¹)	Vibracure® 2101 curative	Royalcast® 3101B curatives	Ethacure 300 curative
Royalcast® 2501	11.16-11.56	80D, 114R		79D, 115R	79D, 114R
Royalcast® 2505	11.40-11.80	85D, 124R			82D, 122R
Royalcast® 3101				79D, 115R	
Royalcast® 3105				77D, 111R	
Royalcast® 3109				85D, 124R	
Royalcast® 23790M	13.50-13.90		80D		

¹ Note: For use outside of the European Union



Vibracure® curatives & Duracure™ blocked curatives¹

Curatives are an integral part of the final elastomer, so we give them careful consideration when designing the right system to meet your needs. The final elastomer is what you care about – and LANXESS scientists can work with you to customize a special curative to achieve your ideal performance.

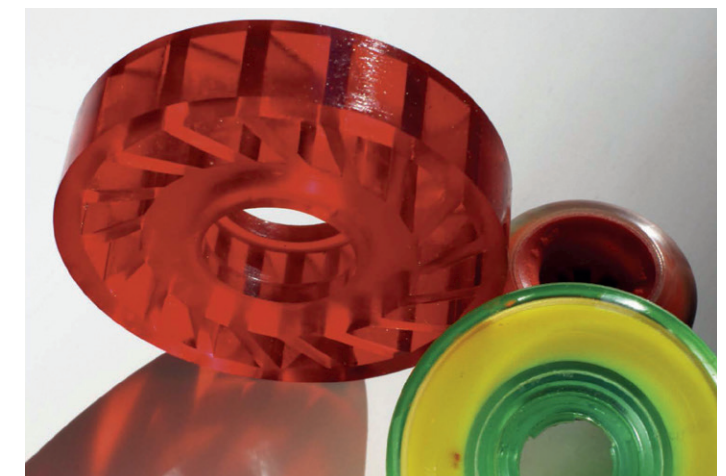
Vibracure® Urethane Curatives & Duracure™ Blocked Curatives¹ – Selected Grades

Product Grade	Type	Usage	Appearance
Vibracure® A 120	Diol	Low hardness, high resilience	Liquid
Vibracure® A 122	Diol	Low hardness, high resilience	Solid
Vibracure® A 125	Diol	Low hardness, FDA wet food approval	Solid
Vibracure® A 133 HS ¹	MOCA ¹	Excellent color stability for TDI prepolymers	Solid
Vibracure® A 134 ¹	MOCA ¹	Excellent color stability for TDI prepolymers	Solid
Vibracure® A 157	Aromatic diamine	FDA dry food approval with TDI ether prepolymers	Powder
Vibracure® A 250	Diol	For tough pPDI prepolymers	Liquid
Vibracure® A 260	Diol	Used with MDI and pPDI prepolymers	Solid
Vibracure® A 310	TMP and TIPA	For low durometer TDI prepolymers	Super cooled liquid
Vibracure® 2101	Diol	Used with MDI and pPDI prepolymers	Pellet
Vibracure® 2107	Aromatic diamine	Used with TDI prepolymers	Liquid
Duracure™ C3 ¹	MDA ¹	Blocked for controllable working life	Suspension
Duracure™ C7 ¹	MDA ¹	Blocked for controllable working life	Suspension
1,4 Butanediol	BDO		Liquid
MCDEA	MCDEA		Solid flake

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LANXESS Urethane Systems is leading cast elastomers with technology and innovation

- Urethane Systems is a specialized provider of designed urethanes systems tailored to meet the specific needs of our customers, based on decades of applications expertise and technical know-how
- Global coverage for our customers: quick and flexible response to customers' needs – truly global and diverse
- Strong focus on sustainability including broad portfolio of Low Free (LF) products which provide performance, processing, environmental and health & safety advantages





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