

# Adiprene® | Vibrathane®

## Castable Polyurethane Prepolymers

**We make it easy to make things tough**

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 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.

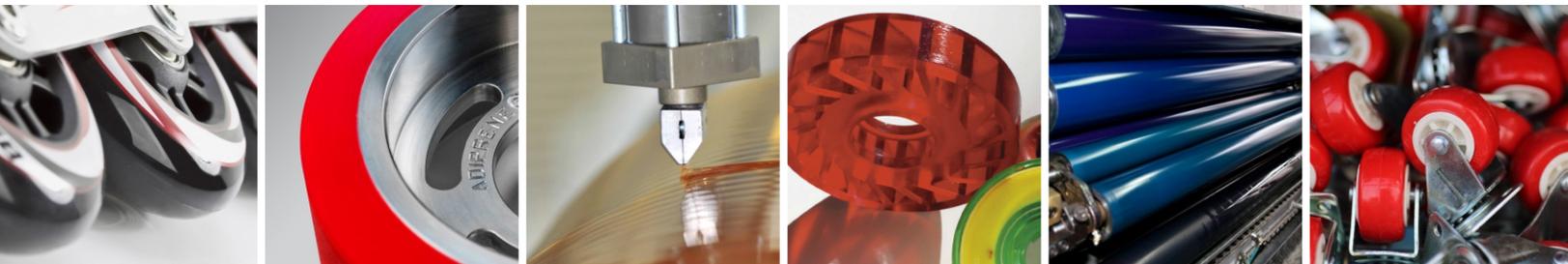
- 6 production plants globally
- 7 application development centers globally
- 1 world-class R&D center in the USA
- Over 500 products to serve customers' needs
- A leading supplier of cast urethane systems globally
- Over 60 years of experience in urethane chemistry
- A technology leader in LF technology
- ~360 employees globally

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
- Automotive
- 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 continuously innovates to deliver improved solutions meeting today's demanding industry and customer needs. To guarantee this commitment, LANXESS operates a network of industry leading R&D and Application Development Centers around the globe, as well as a dedicated technical service laboratory in India.



Manufactured by:

**LANXESS**  
Energizing Chemistry

Distributed by:

**West Coast**  
Polytech LLP

## Conventional TDI and MDI prepolymers

Adiprene® and Vibrathane® TDI and MDI prepolymers can be used with various 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
- Belting where urethane delivers longer lifetime due to outstanding toughness
- Rollers where urethane delivers better abrasion resistance and impact strength
- Golf balls where urethane withstands cutting by the clubs and provides superior distance

Adiprene® and Vibrathane® MDI and TDI prepolymers are available with a wide range of polyol backbones

### Adiprene® & Vibrathane® TDI Urethanes Prepolymers (Selected grades)

Product Grade	Polyol	Packing (Kgs)	NCO%	Pot Life	Hardness (MOCA)
Adiprene® L310	polyether	20.4	2.96-3.26	14 min	80A
Adiprene® L83	polyether	20.4	3.20-3.40	5 min	83A
Adiprene® L100	polyether	20.4	3.95-4.30	10 min	90A
Adiprene® L167	polyether	20.4	6.15-6.55	6 min	95A
Adiprene® L200	polyether	20.4	7.30-7.70	5 min	58D
Adiprene® L315	polyether	20.4	9.25-9.65	1 min	73D
Vibrathane® TE 80A	polyether	20.4	2.96-3.26	14 min	80A
Vibrathane® TE 90A	polyether	20.4	3.9-4.35	7-10 min	90A
Vibrathane® TE 92A	polyether	20.4	4.8-5.20	8 min	92A
Vibrathane® TE 95A	polyether	20.4	6.09-6.56	4-5 min	95A
Prepolymer® AT 0850	polyether	20.4	3.39	10-20 min	85A
Prepolymer® AT 0900	polyether	20.4	4.3	10-20 min	90A
Prepolymer® AT 0950	polyether	20.4	5.74	10-20 min	95A
Vibrathane® B-844	polyether PPG	20.4	3.3-3.7	15 min	80A
Vibrathane® B-809	polyether PPG	20.4	4 -4.2	10 min	85A
Vibrathane® B-892	polyether PPG	20.4	4.5-4.8	6 min	91A
Vibrathane® B-896	polyether PPG	20.4	5.85-6.15	4 min	96A
Vibrathane® 8070	polyester	22.7	2.55-2.70	8-10 min	70A
Vibrathane® 8080	polyester	22.7	3.10-3.50	7-8 min	80A
Vibrathane® 8083	polyester	22.7	3.20-3.50	5-6 min	84A
Vibrathane® 8090	polyester	22.7	4.35-4.75	5 min	90A
Vibrathane® 8050	polyester	22.7	5.40-5.80	3.5 min	50D
Vibrathane® 8011	polyester	22.7	3.17-3.43	-	53A (with TMP/TIPA)
Vibrathane® 6007	polyester	22.7	4.00-4.52	-	57A (with TMP/TIPA)
Vibrathane® 6060	polycaprolactone	22.7	3.20-3.50	9 min	62A

### Vibrathane® MDI Urethanes Prepolymers (Selected grades)

Product Grade	Polyol	Packing (Kgs)	NCO%	Pot Life	Hardness (1, 4 BDO)
Vibrathane® B625	polyether	20.4	6.09-6.56	6 min	85A
Vibrathane® B821	polyether	20.4	7.12-7.64	3-5 min	90A
Vibrathane® B836	polyether	20.4	8.65-9.05	3-4 min	95A
Vibrathane® B670	polyether	20.4	10.91-11.51	5 min	53D
Vibrathane® 6020	polyester	22.7	6.44-6.98	12 min	85A
Vibrathane® 8585P	polyester	22.7	6.50-6.90	6 min	85A
Vibrathane® 8522	polyester	22.7	7.50-7.80	6 min	90A
Vibrathane® 8094	polyester	22.7	8.10-8.40	5 min	94A
Vibrathane® 8045	polycaprolactone	22.7	9.60-10.00	3-4 min	95A

## Adiprene® LF TDI system for easy processing and superior performance

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 safety and offer lower viscosity, longer pot life and faster demolding. They provide superior performance, including excellent toughness, fatigue resistance and low hysteretic heat build-up for dynamic 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 Urethane Prepolymers (Selected grades)

Product Grade	Polyol	Packing (Kgs)	NCO%	Pot Life	Hardness (MOCA)
Adiprene® LF 800A	polyether	20.4	2.75-3.05	14 min	80A
Adiprene® LF 900A	polyether	20.4	3.70-3.90	9 min	90A
Adiprene® LF 930A	polyether	20.4	4.90-5.20	8-9 min	94A
Adiprene® LF 950A	polyether	20.4	5.90-6.20	7-8 min	95A
Adiprene® LF 601D	polyether	20.4	7.05-7.35	4-5 min	60D
Adiprene® LF 753D	polyether	20.4	8.45-8.75	2 min	75D
Adiprene® LF 1700A	polyester	22.7	2.28-2.58	11-15 min	73A
Adiprene® LF 1800A	polyester	22.7	3.15-3.35	10-13 min	83A
Adiprene® LF 1860A	polyester	22.7	3.55-3.85	8 min	86A
Adiprene® LF 1900A	polyester	22.7	4.05-4.35	6-8 min	92A
Adiprene® LF 1950A	polyester	22.7	5.24-5.54	3-5 min	95A
Adiprene® LF 1600D	polyester	22.7	6.10-6.40	3-4 min	60D

## 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
- Lower viscosity for easier mixing and pouring
- Longer pour life (Hours or days with Duracure™ blocked curatives), enabling the casting of very large and complex parts
- Processing using either hand batching or meter-mix machines
- Faster demolding improves productivity and reduces costs

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 Urethane Prepolymers (Selected grades)

Product Grade	Polyol	Packing (Kgs)	NCO%	Pot Life	Hardness (Duracure™)
Adiprene® LFM E320X	polyether	20.4	3.00-3.40	-	90A
Adiprene® LFM E500X	polyether	20.4	4.80-5.20	-	95A
Adiprene® LFM S223X	polyester	22.7	2.10-2.35	-	80A
Adiprene® LFM S265X	polyester	22.7	2.50-2.80	-	85A
Adiprene® LFM S350X	polyester	22.7	3.35-3.65	-	89A
Adiprene® LFM C350X	polycaprolactone	22.7	3.30-3.70	-	90A
Adiprene® C930	polycaprolactone	22.7	4.35-4.65	-	93A
Adiprene® C950	polycaprolactone	22.7	4.90-5.30	-	95A

## 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® 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 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, 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.

## 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.

The high modulus materials range in hardness from 77D to 85D and have heat deflection temperatures as high as 107°C (225°F).

## Vibracure curatives & Duracure™ blocked curatives

Lanxess offers a range of special curatives under the Vibracure and Duracure brands, to achieve specific properties with different prepolymers. Curatives are an integral part of the final elastomer, so Lanxess gives them careful consideration when designing the right system to meet your needs.

## West Coast Polytech LLP is the local distributor for Lanxess' Adiprene and Vibrathane Cast Polyurethanes

We also offer complimentary products such as :

- Curatives, including Moca
- PU-to-Metal Bonding Agent Thixon® 422 of DuPont
- Mould Release Agents
- Degassing Agents

We are also distributors of:

- Synthetic Rubbers & Rubber Chemicals
- Millable Polyurethanes
- Rubber to Metal Bonding Agents
- Specialty Plasticizers

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