



Case Study **Elastolan**

ELASTOLAN AB, Sweden

MbOCA Replacement Technology

ADIPRENE® LF MDI

Elastolan was formed by Ronnie Smahl in 1974, as a small company re-covering printing rollers. It was one of the first companies to cast polyurethanes in Sweden. Today, their products are more complex, casting parts from the tiniest seal up to the biggest roller, and serving many industries such as paper mills, steel and wood.

Making the move to a MbOCA Free System Elastolan Lead the Way

ADIPRENE® LF (Low Free) MDI, the basis of a MbOCA free system, has recently been adopted by polyurethanes cast elastomer manufacturer, Elastolan, based in Sweden. Ronnie Smahl, Owner & CEO and Robin Nord, Sales & Production Manager, explain how easy it was to phase out MbOCA from their production and why ADIPRENE® LF MDI was chosen as its replacement.

Current Industry Challenges

“The current challenge to processing polyurethanes is the regulations,” explains Ronnie Smahl.

“With the MbOCA system, we had to get permission every third year from the government to be able to handle MbOCA. In addition, health and safety has always been important for Elastolan, we were keen to get rid of any hazardous chemicals used in the factory and had decided years ago to quit MbOCA, independent of any regulations”.

“The problem was finding a good replacement material that could cover every product Elastolan made, from the smallest to the biggest part”, continues Ronnie.

“It was a real challenge and we struggled until Chemtura presented the new ADIPRENE® LF MDI to us. The ADIPRENE® LF MDI system can meet all our production needs, plus we no longer have the cost and hassle of seeking permission to handle MbOCA. What’s more, it shows our customers and employees how much we value safety”.

“When we processed MbOCA we already had an LF TDI, so it was natural for us to have an MDI low-free monomer as well. One way to go was to keep the LF TDI and just change the curative for example. But their properties aren’t always good enough (depending on the application). Choosing a low free system in MDI feels like the right way to go, to meet the future in Europe.”

Maintaining Material Properties

“The main benefit of ADIPRENE® LF MDI is that we can mix with the catalyst to decrease the de-moulding time, without affecting the properties of the material, so that is really fantastic we think”, explains Robin Nord.

“This leads to increased production capacity - the new system can make the production more cost effective.”

“I think, in many of the applications, the ADIPRENE® LF MDI system really exceeded the properties we were aiming for. The properties and the feeling of the material is fantastic.”



Positive Customer Feedback

Ronnie and Robin admit to being “a little bit afraid of the feedback” following their decision to quit MbOCA, unsure how their customers would react. But the response from all customers was “just positive”, particularly, according to Ronnie, as many of their big customers were “well aware of the MbOCA situation in Europe and ADIPRENE® is a well-known trademark in the market and I think that is a kind of guarantee for me and for our customers. The change from TDI/MbOCA to the new ADIPRENE® LF MDI system has really helped us to open new doors to new business.”

Elastolan have been processing LF MDI for more than two years. “We have less abrasion and less setting problems and these type of properties are much better than with the earlier TDI/MbOCA system,” says Ronnie.

How Easy was the Switch from MbOCA?

There is always an element of risk in changing systems central to a company’s production success. Elastolan relied on support from Chemtura, the manufacturer of ADIPRENE® LF MDI systems, which holds the leader position in low free monomer technology. Chemtura was the frontrunner in launching MbOCA-alternatives and is the only manufacturer of LF Urethane Prepolymers across a wide range of chemistries including TDI, MDI, PPDI and HDI, plus a full range of suitable curatives to make the highest performing cast urethane systems.

Ronnie and Robin agree that “the technical support from Chemtura is really good and we always have a quick response.” According to Robin, “even the smallest problem they answer really quickly and that’s really valuable. So we can feel calm to switch this system from MbOCA curative to the ADIPRENE® LF MDI system because their expertise is fantastic in this area. From my point of view, the relationship with Chemtura has been really genuine and honest over all these years”.



Low-Free Monomer Selection

Chemtura is highly dedicated to Responsible Care® and has developed the ADIPRENE® LF, Low-Free monomer prepolymer product range to help cast polyurethane (PU) processors operate with better health and safety standards due to Low-Free isocyanate levels and the ability to cure with diols, in addition to a range of other suitable curatives. Depending on the choice of prepolymer system, benefits can include:

Health & safety (cost) benefits:

- No MbOCA handling, storage or government regulation fees
- Reduced free monomer levels below 0.1% for TDI, PPDI, HDI and below 1% for MDI
- Improved industrial hygiene

Easy and flexible processing:

- Processable with a wide range of curatives and catalysts
- Good casting of large parts due to longer pot life
- Higher production output by faster demoulding
- Lower viscosity
- Equal or better final elastomer properties with the ADIPRENE® LF MDI range

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, outstanding fatigue and abrasion resistance, and high load bearing capabilities. ADIPRENE® LF MDI demonstrates total improvement in terms of processing, performance and cost-in-use.

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, faster demoulding and lower hysteretic heat build-up. ADIPRENE® LF TDI systems offer the most versatility for a wide range of applications.

Watch our Elastolan Case Study Film to find out more.

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