# SATURATED POLYESTER POLYOLS FOR CASTING ELASTOMERS AND TPU

Elapol is a worldwide brand of saturated polyester polyols for polyurethane systems used in footwear, flexible and rigid PU foams, cast elastomers and TPU, polyurethane adhesives, and polyurethane coatings.

TECHNICAL PRODUCT BROCHURE

















100% ELACHEM
BUILT ON CHEMISTRY.
INSPIRED BY PEOPLE.





## WE ARE ELACHEM PEOPLE.

Founded in Vigevano, Italy, in 2001, Elachem® S.p.A. is a wholly Italian-owned company that has established itself as an international leader in the production of saturated polyesters, polyurethane systems, and high-performance materials.

With an annual production capacity of 95,000 tonnes of saturated polyesters and 50,000 tonnes of polyurethane systems, the company supplies partners worldwide with innovative, tailor-made solutions.

The acquisition of Epaflex® Polyurethanes in 2008 further expanded its portfolio, adding Thermoplastic Polyurethanes (TPU), elastomers, and other advanced technologies.

At the heart of Elachem®'s innovation are its state-of-the-art laboratories, which oversee the entire development process, from product design to final testing.

# FIND WHAT SPEAKS TO YOU.

Explore the four product areas
at the heart of our expertise.

## SATURATED POLYESTER

Elapol® is our worldwide brand of saturated polyester polyols for flexible and rigid PU foams, casting elastomers and TPU, polyurethane adhesives and coatings, and polyurethane systems for footwear.

## POLYURETHANE SYSTEMS

Our polyurethane systems bring technical precision with a dash of Italian soul.

Our expertise is focused across three key areas: Casual & Sport, Safety, and Fashion, each developed to meet specific performance and design needs.

## TPU AND CASE

Epaflex has been actively involved for more than 30 years in manufacturing and supply of polyurethane (PU) systems and thermoplastic polyurethane granules (TPU) in a wide range of industrial sectors. The range of products offered is constantly evolving, thanks to the commitment and resources invested in research and application development.

## PRIVATE LABEL

Discover our range dedicated to manufacturers: exclusive brand formulations, produced by Epaflex Polyurethanes S.p.A. and Elachem® Spa to the highest quality standards.

**Discover the full range of products on elachem.com**

# WE SMILE OFTEN.



# WE MEAN BUSINESS.

## OUR RANGE OF SATURATED POLYESTER

Elachem S.p.A. offers a broad range of aliphatic and aromatic polyester polyols.

The Saturated Polyester Polyols Division focuses its activities on production and manufacturing processes for the PU industry, in compliance with the highest EHS standards.

Elachem's technical teams provide tailor-made solutions to meet your technological requirements.

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# SATURATED POLYESTER POLYOLS FOR CASTING ELASTOMERS AND TPU

## SATURATED POLYESTERS MANUFACTURED WITH SYNTHETIC ACID AND GLYCOLS.

Gives good Hydrolysis resistance and good mechanical properties.

| ELAPOL | ACIDS/ ANHYDRIDES | MAIN GLYCOLS | STRUCTURE | APPEARANCE | OH NUMBER mg KOH/g | | ACID NUMBER mg KOH/g | BROOKFIELD VISCOSITY mPa·s | WATER CONTENT % | HAZEN COLOUR | FIELD OF USE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **5520 A** | **Aliphatic** | **1,4-BDO, MEG** | Linear | **Waxy** | **54 - 58** | | **≤ 0,7** | **4700 - 5200 (35°C)** | **≤ 0,1** | **≤ 50** | Very good physical and mechanical properties. Can be used to produce cast elastomers and TPU (thermoplastic polyurethane elastomers). |
| **5520 C** | **Aliphatic** | **1,4-BDO, MEG** | Linear | **Waxy** | **54 - 58** | | **≤ 0,5** | **4000 - 5100 (35°C)** | **≤ 0,1** | **≤ 100** | |
| **5420 A** | **Aliphatic** | **1,4-BDO, MEG** | Linear | **Waxy** | **54 - 58** | | **≤ 0,4** | **4700 - 5200 (35°C)** | **≤ 0,1** | **≤ 50** | |
| **5530 A** | **Aliphatic** | **1,4-BDO, MEG** | Linear | **Solid** | **35 - 38** | | **≤ 0,7** | **10.000 - 11.000 (35°C)** | **≤ 0,1** | **≤ 100** | |

| ELAPOL | ACIDS/ ANHYDRIDES | MAIN GLYCOLS | STRUCTURE | APPEARANCE | OH NUMBER mg KOH/g | | ACID NUMBER mg KOH/g | BROOKFIELD VISCOSITY mPa·s | WATER CONTENT % | HAZEN COLOUR | FIELD OF USE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **3030 A** | **Aliphatic** | **MEG** | Linear | **Solid** | **37 - 40** | | **≤ 0,7** | **2300 - 2600 (60°C)** | **≤ 0,1** | **≤ 100** | Good general properties. These products combine competitive prices and good performances. They can be used with NDI or MDI to produce cast elastomers or with MDI in the production of TPU. |
| **3020 A** | **Aliphatic** | **MEG** | Linear | **Solid** | **54 - 58** | | **≤ 0,7** | **450–600 (75°C)** | **≤ 0,1** | **≤ 100** | |
| **3010 A** | **Aliphatic** | **MEG** | Linear | **Solid** | **108 - 116** | | **≤ 0,7** | **450 - 650 (50°C)** | **≤ 0,08** | **≤ 100** | |

| ELAPOL | ACIDS/ ANHYDRIDES | MAIN GLYCOLS | STRUCTURE | APPEARANCE | OH NUMBER mg KOH/g | | ACID NUMBER mg KOH/g | BROOKFIELD VISCOSITY mPa·s | WATER CONTENT % | HAZEN COLOUR | FIELD OF USE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **5030 A** | **Aliphatic** | **1,4-BDO** | Linear | **Solid** | **37 - 40** | | **≤ 0,5** | **2500 - 4000 (60°C)** | **≤ 0,05** | **≤ 50** | Very good physical and mechanical properties. Good hydrolysis resistance. They can be used to produce cast elastomers and TPU. |
| **5020 A** | **Aliphatic** | **1,4-BDO** | Linear | **Solid** | **54 - 58** | | **≤ 0,5** | **1300 - 1500 (60°C)** | **≤ 0,1** | **≤ 40** | |
| **5010 A** | **Aliphatic** | **1,4-BDO** | Linear | **Solid** | **114 - 122** | | **≤ 0,3** | **200 - 400 (60°C)** | **≤ 0,05** | **≤ 30** | |

| ELAPOL | ACIDS/ ANHYDRIDES | MAIN GLYCOLS | STRUCTURE | APPEARANCE | OH NUMBER mg KOH/g | | ACID NUMBER mg KOH/g | BROOKFIELD VISCOSITY mPa·s | WATER CONTENT % | HAZEN COLOUR | FIELD OF USE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **6030 A** | **Aliphatic** | **1,6-hexanediol** | Linear | **Solid** | **35 - 49** | | **≤ 0,7** | **2800 - 3100 (60°C)** | **≤ 0,1** | **≤ 50** | Excellent physical and mechanical properties, especially at low temperature. Good hydrolysis resistance. Mainly used in the production of TPU. |
| **6020 A** | **Aliphatic** | **1,6-hexanediol** | Linear | **Solid** | **54 - 58** | | **≤ 0,5** | **1100 - 1300 (60°C)** | **≤ 0,1** | **≤ 100** | |
| **6010 B** | **Aliphatic** | **1,6-hexane-diol** | Linear | **Solid** | **108 - 118** | | **≤ 1,0** | **300 - 500 (50°C)** | **≤ 0,1** | **≤ 100** | |

elachem.com

Worldwide exporter of Saturated Polyester,
Polyurethane Systems, TPU and CASE


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LET'S TALK

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OUR COMMITMENT


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