



## DALTOPED® GRIP

### For safety and comfort in shoes

The DALTOPED® GRIP polyether and polyester soling solutions mimics the look and feel of rubber, and provides advanced slip resistance properties for casual, sports, safety and military footwear.

A fully water-blown material, DALTOPED® GRIP soling solution is suitable for the direct-on process and casting of unit soles and outsoles.

#### Key features

- Slip resistant
- Easy to process
- Rubber-like touch and feel
- Durable and flexible
- Phthalate- and tin-free
- Compliant with safety footwear regulations

#### Benefits

##### Performance benefits

- Good grip and feel
- Non marking soles
- Wear resistant
- Comfortable

##### Processing benefits

- Compatible with standard polyurethane processing machines
- Suitable for stitch on soles and direct-on processing
- Faster processing (compared to thermoplastic rubber)
- Possibilities for single and dual density footwear

##### Cost benefits

- Lower costs for molds\*
- Reduced energy consumption and fast production cycle\*
- Reduced density\*
- High productivity

\* When compared to thermoplastic rubber



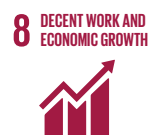
## Striving for sustainability

We are dedicated to the development of sustainable soling solutions that can support the footwear industry's environmental ambitions. A signatory to the United Nations Global Compact (UNGC) - the world's largest voluntary corporate citizenship initiative - our work is guided by the UN's 17 Sustainable Development Goals. All 17 UN Sustainable Development Goals are important to our business - with three of particular relevance to our work in the global footwear sector.



**3** GOOD HEALTH AND WELL-BEING

- Lightweight materials for comfort
- Phthalate- and tin-free
- Solvent-free



**8** DECENT WORK AND ECONOMIC GROWTH

- Fully water-blown technology
- Certified systems for quality safety shoes
- Fast production cycles
- Lower manufacturing costs
- Reduced costs for molds



**12** RESPONSIBLE CONSUMPTION AND PRODUCTION

- Long lasting products
- Low production waste
- Energy efficient process

## Committed to our customers

We are committed to providing our customers with outstanding levels of support. We achieve this by:

- Employing experienced technical service people
- Providing trouble shooting advice
- Performing regular quality checks
- Offering sampling and proto-typing services
- Developing tailor-made solutions
- Co-innovating for the future
- Supporting product compliance needs
- Delivering dedicated training including MDI safe handling

## Typical properties

	Thermoplastic rubber	DALTOPED® GRIP <i>technology</i>		
Density (kg/m³)	1000 Optional 800-1000	800	700	600
Hardness (Shore A)	50 - 60	46	50	45
Trouser tear (N/mm)	8	10 - 11	7.5	6.1
Tensile strength (MPa)	4 - 5	4.4	3.7	3.0
Elongation (%)	450 - 650	540	470	450
Flex life (DEG flex 10 <sup>5</sup> cycle mm cut)	< 6	0	0	0
Abrasion (mg loss)	170 - 250	<80	<80	<80

# HUNTSMAN

Enriching lives through innovation

### Europe

Huntsman Polyurethanes  
Everslaan 45  
3078 Everberg  
Belgium  
Tel.: +32 2 758 9211  
elastomers\_EU@huntsman.com

### Asia

Huntsman Polyurethanes  
452 Wen Jing Road  
Minhang Econ. & Tech. Dev. Zone  
Shanghai 200245  
P.R. China  
Tel.: +86 21 3357 6588  
elastomers\_APAC@huntsman.com

### America

Huntsman Polyurethanes  
Auburn Hills Technical Center  
2190 Executive Hills Boulevard  
Auburn Hills, MI 4836  
USA  
+1 248 322 7300  
elastomers\_Americas@huntsman.com

### About Huntsman:

Huntsman Corporation is a publicly traded global manufacturer and marketer of differentiated and specialty chemicals with 2018 revenues more than \$9 billion. Our chemical products number in the thousands and are sold worldwide to manufacturers serving a broad and diverse range of consumer and industrial end markets. We operate more than 75 manufacturing, R&D and operations facilities in approximately 30 countries and employ approximately 10,000 associates within our four distinct business divisions. For more information about Huntsman, please visit the company's website at [www.huntsman.com](http://www.huntsman.com).

Huntsman Corporation warrants only that its products meet the specifications stated in the sales contract. Typical properties, where stated, are to be considered as representative of current production and should not be treated as specifications. While all the information presented in this document is believed to be reliable and to represent the best available data on these products, HUNTSMAN MAKES NO WARRANTY OR GUARANTEE OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT OF ANY INTELLECTUAL PROPERTY RIGHT OF ANY THIRD PARTY, OR WARRANTIES AS TO QUALITY OR CORRESPONDENCE WITH PRIOR DESCRIPTION OR SAMPLE, AND ANY USER OF PRODUCTS DESCRIBED HEREIN SHOULD CONDUCT A SUFFICIENT INVESTIGATION TO ESTABLISH THE SUITABILITY OF ANY PRODUCT FOR ITS INTENDED USE AND ASSUMES ALL RISK AND LIABILITY WHATSOEVER RESULTING FROM THE USE OF SUCH PRODUCT, WHETHER USED SINGLY OR IN COMBINATION WITH OTHER SUBSTANCES. Products may be toxic and require special precautions in handling. For all products described herein, the user should obtain detailed information on toxicity, together with proper shipping, handling, and storage procedures, and should comply with all applicable safety and environmental standards. The behavior, hazards and/or toxicity of the products referred to in this publication in manufacturing processes and their suitability in any given end-use environment are dependent upon various conditions such as chemical compatibility, temperature, and other variables, which may not be known to Huntsman. It is the sole responsibility of the user of such products to evaluate the manufacturing circumstances and the final products under actual end-use requirements and to adequately advise and warn future purchasers and users thereof.

DALTOPED® is a registered trademark of Huntsman Corporation or an affiliate thereof in one or more, but not all, countries.

© Copyright 2019. Huntsman Corporation or an affiliate thereof. All rights reserved.