

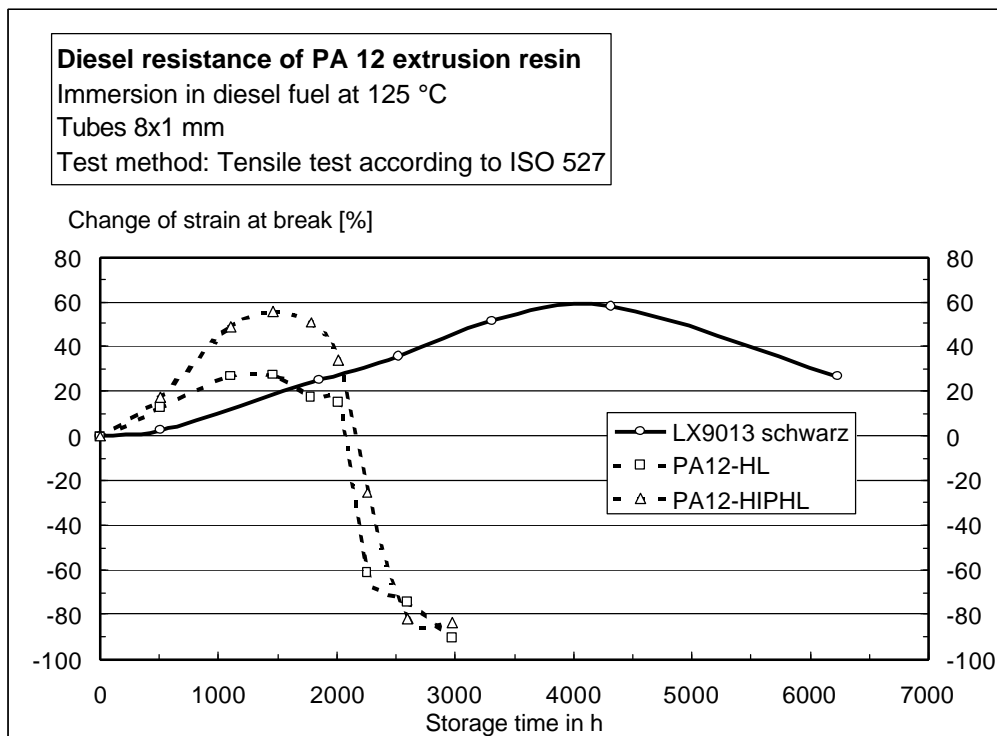
## VESTAMID® LX9013

**VESTAMID LX9013 is a high-viscosity, plasticized compound for extrusion with an extraordinary long-term heat resistance**

VESTAMID LX9013 is a plasticized polyamide 12 compound with an especially high long-term resistance under thermal load.

Parts made of this material absorb only little moisture, thus leading to nearly unaffected dimensions and properties at changing ambient conditions.

VESTAMID LX9013 is suited to produce flexible tubes that are impact-resistant also at low temperatures. These tubes are permanently exposed to higher temperatures, e.g., in the engine compartment of motor vehicles, particularly as fuel lines in diesel engined vehicles. The advantages of the compound to comparable standard grades are strongly obvious in storage tests with diesel fuel (see the figure).



The material corresponds to the extrusion compound PA12-HIPHL, grade1 acc. DIN 73378 and meets the requirements acc. DIN 74324 (black), ISO 7628 and SAE J844.

VESTAMID LX9013 is supplied as dry granules in moisture-proof packaging. For guidance processing VESTAMID LX9013 please follow the general recommendation in our brochure „Handling and Processing of VESTAMID“.

**Further information can be obtained from the Technical Marketing of the High Performance Polymers Business Unit.**

| Property                                  |          | Test method   | Unit   | VESTAMID<br>LX9013  |                 |
|---|----------|---------------|--|---------------------|-----------------|
| Density                                   |          | ISO 1183      | cm <sup>3</sup> /g                                       | 1.02                |                 |
| Melting point (2. heating)                |          | ISO 3146      | °C   | 172                 |                 |
| <b>Tests on injection-molded specimen</b> |          |               |  |                     |                 |
| Tensile test                              |          | ISO 527       |  |                     |                 |
| Stress at yield                           |          |               | MPa  | no yield point      |                 |
| Strain at yield                           |          |               | %  |                     |                 |
| Stress at 50% strain                      |          |               | MPa  | 30                  |                 |
| Stress at break                           |          |               | MPa  | 43                  |                 |
| Nominell strain at break                  |          |               | %  | > 150               |                 |
| Tensile modulus                           | 1 mm/min | ISO 527       | MPa  | 400                 |                 |
| CHARPY impact strength                    | 23 °C    | ISO 179/1eU   | kJ/m <sup>2</sup>  | N <sup>1)</sup>     |                 |
|   | -30 °C   |               | kJ/m <sup>2</sup>  | N <sup>1)</sup>     |                 |
| CHARPY notched impact strength            | 23 °C    | ISO 179/1eA   | kJ/m <sup>2</sup>  | 140 P <sup>1)</sup> |                 |
|   | -30 °C   |               | kJ/m <sup>2</sup>  | 7 C <sup>1)</sup>   |                 |
| <b>Test on tubes (8 x 1 mm)</b>           |          |               |  |                     |                 |
| Impact test                               | -40 °C   | as molded     | ISO 7628-2/  | J                   | N <sup>1)</sup> |
|   | 23 °C    | 72 h / 150 °C | DIN 73378  | J                   | N <sup>1)</sup> |
|   | -40 °C   | as molded     | SAE J2260  |                     | N <sup>1)</sup> |
|   | -40 °C   |               | SAE J844   |                     |                 |
|   |          |               | as molded<br>after 24 h / 110 °C<br>2 h in boiling water |                     |                 |
| Burst test                                | 23 °C    | DIN 53758     |  |                     |                 |
| Hoop stress                               |          |               | MPa  | 24.8                |                 |

<sup>1)</sup> N = No break  
C = Complete break, incl. hinge break H  
P = Partial break

® = registered trademark

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**Degussa AG**

High Performance Polymers

45764 MARL

GERMANY

Fax: +49 2365 49-5992

E-mail: degussa-hpp@degussa.com