We create chemistry that makes fashion love renewable raw materials.

As our customers and consumers are becoming more aware of how clothing is made, and the impact of textile production on the environment, BASF brings a new polyamide solution based on renewable feedstock to the world of fashion. Ultramid® Mass Balance opens up new opportunities to create more sustainable solutions – all without the need to change your production setup.

Turning sustainability challenges into market opportunities

BASF has developed a groundbreaking approach to derive products from renewable raw materials: Certified renewable feedstock is used to replace fossil resources at the beginning of the production process and is then allocated to sales products in the respective quantities. An independent certification issued by TÜV SÜD confirms the use of required amount of renewable raw materials needed to produce the product. The resulting products are identical in terms of formulation and quality but are associated with lower CO₂ emissions and saving of fossil resources.

BASF Mass Balance approach

Feedstock

<table>
<thead>
<tr>
<th>Fossil Feedstock</th>
<th>Renewable Feedstock (Biogas, Biomethane)</th>
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</thead>
</table>

BASF Verbund - Integrated Production Site

<table>
<thead>
<tr>
<th>Conventional Polyamide 6 &amp; other products</th>
<th>Ultramid® Mass Balance Polyamide 6</th>
</tr>
</thead>
</table>

Allocation

| 6.7** Tons CO₂ equivalents per 1 ton of polyamide 6 | 2.3* Tons CO₂ equivalents per 1 ton of Ultramid® Mass Balance PA6 |

Use of renewable feedstock in very first steps of chemical production (e.g., steam cracker)

Utilization of existing Verbund Production for all production steps

Allocation of renewable share to selected products

Value added solution to meet sustainability trend in the textile industry

- Reduces greenhouse gas emissions
- Independently certified by TÜV SÜD
- No compromise on performance
- Identical product derived from biomass
- Saves fossil resources

Sustainably produced feedstock

- Sustainable use of land
- Protection of natural biospheres
- Social sustainability

Independent Certification by TÜV SÜD

- Closed chain of custody from the renewable feedstock it uses through to the final product
- Annual review of the entire BASF value chain

16,000 Kilometers

Producing one ton of Ultramid® Mass Balance polyamide instead of conventional polyamide can reduce as much CO₂ as emitted from driving a passenger car for 16,000 km.

Source: U.S. Environmental Protection Agency.

* Based on LCA report for Ultramid® Mass Balance Polyamide 6
** According to Plastics Europe

In accordance with International Sustainability & Carbon Certification (ISCC) and European Union Renewable Energy Directive’s (RED) requirements.
High performance Ultramid® products for the engineering plastics, film, fiber and monofilament industry

With more than 60 years of experience, BASF is the leading supplier of high quality polyamide and polyamide intermediates for the engineering plastics, film, fiber and monofilament industry. The line of products include Ultramid® B (polyamide 6), Ultramid® C (polyamide 8/6.6 copolymer), and Ultramid® A (polyamide 6.6). The product offerings are supplemented by technical services for our customers.

BASF operates Ultramid® polymerization plants in Ludwigshafen, Germany; Antwerp, Belgium; Freeport, USA; and Shanghai, China. The production of polyamide for film, textile and carpet fiber as well as for engineering plastics applications is integrated into BASF’s global Verbund structure with polyamide intermediates (i.e. adipic acid, anolone, caprolactam), chemical raw materials (i.e. ammonia, cyclohexane, sulfuric acid), energy, by-product recovery, logistics and other services.