

AP- Nylon Materials

Application sheet 01

Nyrim® Agricultural Crusher

BrüggemannChemical provides raw materials for three distinct families of **AP-Nylon** (polyamides produced by **Anionic Polymerization**) used in a wide range of applications. Mechanical properties of these AP-Nylons extend from thermoplastic polyamides into rubber-like elastomeric materials.

AP Caprolactam along with different catalyst systems (**Bruggolen® C**) leads to standard cast Nylon 6.

Nyrim® is elastomer toughened, recyclable, thermoplastic Nylon 6 for industrial Reaction Injection Molding (RIM), Injection Molding and Rotomolding applications. Nyrim® usually contains 10-40% built-in elastomer, depending on the specific performance needs.

The stiffness / toughness combination of Nylon-6 and elastomer gives excellent impact resistance, wear resistance and repetitive load (fatigue) endurance.

Nyrim® can be selectively reinforced with glass fiber or glass mats and can also be filled with mineral fillers.

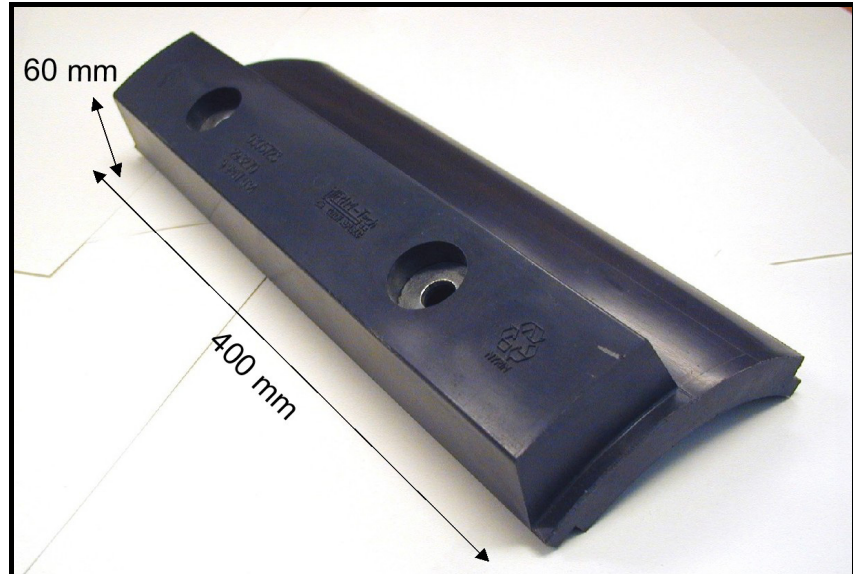
Star-Rim is a toughened Nylon suitable for RIM processing. It can also be reinforced with glass or filled with mineral fillers.

RIM processing is the preferred method to manufacture large, complex or thick parts. RIM processing allows for large design flexibility.

Pressures are lower than injection molding pressures, resulting in lower mold and manufacturing costs.

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The crusher is intended for agricultural machines. About 100 of these crushers are fitted onto two drums. Between these drums grass or other agricultural products are crushed to animal feed.

This is a typical Nyrim® application - a massive component having to meet extreme requirements for toughness and impact resistance. The component is difficult to make with other plastic material / processing combinations because of abrupt cross section changes. The product also has metal inserts molded-in.

After a few years of service, the component shows minimum wear though it has been exposed to extreme loading. Series production of the component has been running for 5 years to full customer satisfaction.

Important features for this application	
Physical properties features	RIM design features
<ul style="list-style-type: none"> • High toughness • Extremely high impact resistance • High abrasion resistance 	<ul style="list-style-type: none"> • Economically molding of thick parts • Easy molding-in of metal inserts