



**ALAMID<sup>®</sup> D**

Magnetically detectable  
compounds



# ALAMID® D

## Magnetic attraction

Industrially manufactured foods have long been a feature of our eating culture, and it would be impossible to imagine everyday life without industrialised production of this kind. At the same time, negative headlines about contaminated foods and animal feed leave a bitter aftertaste amongst consumers. Consumers quite rightly expect products of maximum safety and quality. This makes it all the more important to bring flawless goods onto the market, which meet up to the stringent quality criteria of consumers, manufacturers and legislators.

In the pharmaceutical industry too, soiling due to foreign bodies in the production process can have serious consequences for both consumers and manufacturers alike. This is why the requirements placed on the food and pharmaceuticals industry in respect of process and plant safety have been continually stepped up for many years.

## Plastics in the food industry - robust, lightweight, flexible and versatile

Components in plastic have become established in the production plant used by the food processing industry. Containers, conveyor buckets, transport crates, moulds, housings, tools and machine components, etc. are increasingly being made of polymer materials. These have many different advantages over metals: plastics are resistant, lightweight and easier to shape and thus offer considerably more scope for design.

When engineering plastics are used as a substitute for metals, however, it is not always possible to readily fulfil all the requirements. The nature of the materials means that aspects such as detectability and magnetisability are lacking.

Applications in the hygiene-sensitive food industry, however, require these properties in some cases. If fragments of plastics inadvertently make their way into the production process, as a result of damage, carelessness or defects, it is not only the resulting disruptions to production that pose problems. Much more serious is the danger that these fragments could end up in food and could pose a serious health risk if ingested. It is thus essential to ensure that these foreign bodies do not remain in the final product.

## For safe enjoyment – detectable compounds minimise risk potential

ALAMID® D compounds are magnetically detectable. The basic polymer is modified with metal additives, allowing foreign bodies to be detected by the standard types of metal separator. This ensures that even the smallest particles of plastic can be reliably detected and removed from the production stream.

ALAMID® D compounds offer outstanding, individually adjustable alternative materials. These compounds guarantee maximum process safety, while leaving the characteristic properties of the basic polymers virtually unchanged. The products are supplied in conformity with the valid regulations governing plastics for food contact (e.g. Regulation 10/2011 (EU), FDA 21 CFR).

In addition to the polyamides used for ALAMID® D to date, optimised, customised product solutions based on other engineering thermoplastics are also available. And, apart from reinforced grades, elastic variants (such as for cable tie applications), customised colours permitting clear visual differentiation from the end product, and conductive combinations are similarly possible.



## TECHNICAL DATA

# 3

### Physical and mechanical properties

ALAMID®			6 GF 30 PU D SCHWARZ-17018 <sup>2)</sup>	6 GF 15 PU D SCHWARZ-23190 <sup>3)</sup>	6.6 D S Z BLAU
Density	ISO 1183	g/cm <sup>3</sup>	1,53	1,5	1,25
Tensile strength	ISO 527	MPa	150	115	—
Elongation at break	ISO 527	%	2,3	2,7	—
Tensile modulus	ISO 527	MPa	11 500	7 400	2 600
Charpy impact strength unnotched	ISO 179/1eU	kJ/m <sup>2</sup>	45	38	75
Charpy impact strength notched	ISO 179/1eA	kJ/m <sup>2</sup>	7	5	11,5
Melting temperature	ISO 3146 (10K/min)	°C	221	221	260
Moulding shrinkage	ISO 294 <sup>1)</sup>	%	—	0,1 - 0,5	—
Tensile stress at yield	ISO 527	MPa	—	—	45
Elongation at yield	ISO 527	%	—	—	17

1) Internal test method in accordance with ISO 294 (test specimen 60 mm x 60 mm x 2 mm)

2) Food contact confirmation as per Regulation 10/2011 (EU) | 3) Food contact confirmation as per Regulation 10/2011 (EU) and FDA 21 CFR



Conveyor bucket in ALAMID® 6 GF 30 PU D SCHWARZ-17018



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All the values are given solely by way of a guide and are intended to provide information on possible applications. No assurance is given regarding suitability for specific purposes, this must be established in each individual case. We also refer you to our Terms of Delivery and Sale.

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