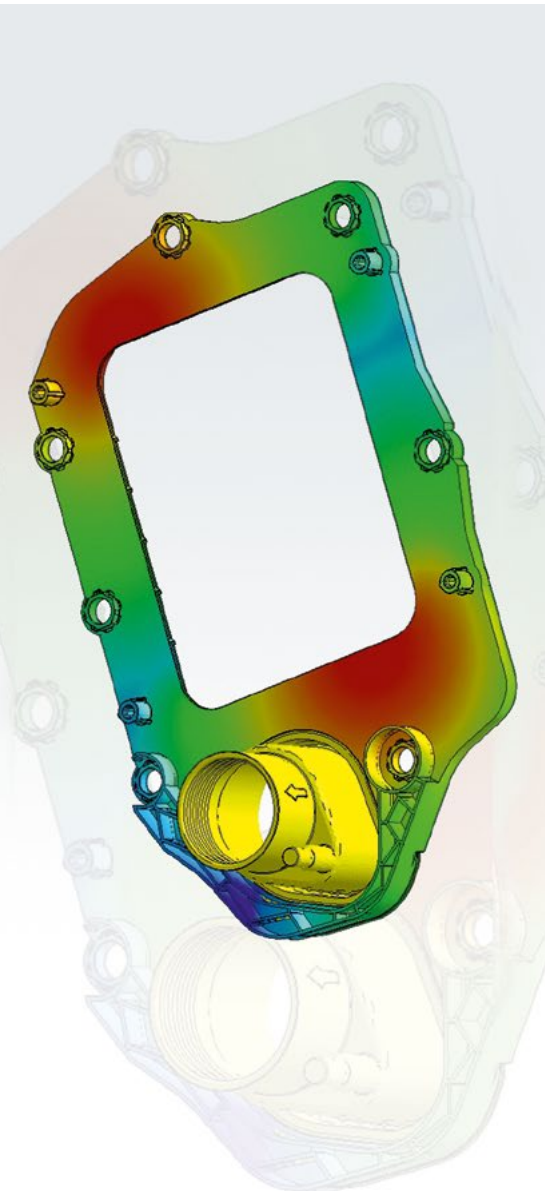


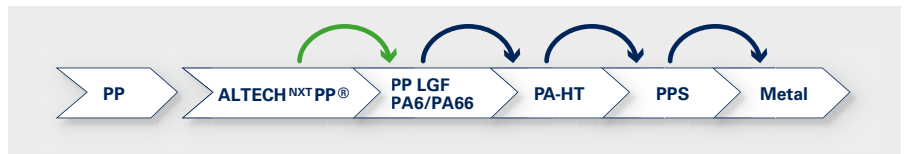
# ALTECH<sup>NXT</sup>PP<sup>®</sup>

Advanced Polypropylene Compounds



**ALTECH<sup>NXT</sup>PP<sup>®</sup> closes the gap between standard PP and Nylon to set new standards for glass fiber-reinforced PP compounds.**

Lightweight design and weight reduction are trends that not only lead to metal-substitution by plastic, but also increases the pressure to reduce the density of the technical plastics used. Glass fiber-reinforced Nylon is commonly deployed in the automotive industry in a multitude of applications. Usually it cannot be replaced by lower density polypropylene. Typical reasons being: lower strength, lower heat deflection temperature and poorer heat aging resistance of standard polypropylene.



ALTECH<sup>NXT</sup>PP<sup>®</sup> offered by ALBIS PLASTIC is a polypropylene-based material that allows the direct substitution of Nylon. Based on an innovative formulation and advanced processing technology, glass fiber-reinforced ALTECH<sup>NXT</sup>PP<sup>®</sup> achieves an outstanding property profile. High mechanical stiffness and strength as well as a substantially increased dimensional heat stability, set ALTECH<sup>NXT</sup>PP<sup>®</sup> apart from standard glass fiber filled polypropylene. The excellent heat aging resistance allows the use of ALTECH<sup>NXT</sup>PP<sup>®</sup> in applications with a service temperature of up to 120°C, without loss of properties by material degradation. Additionally, substitution of Nylon with ALTECH<sup>NXT</sup>PP<sup>®</sup> comes with the advantage of the absence of moisture absorption, which means: constant mechanical properties and lasting dimensional stability of moldings.

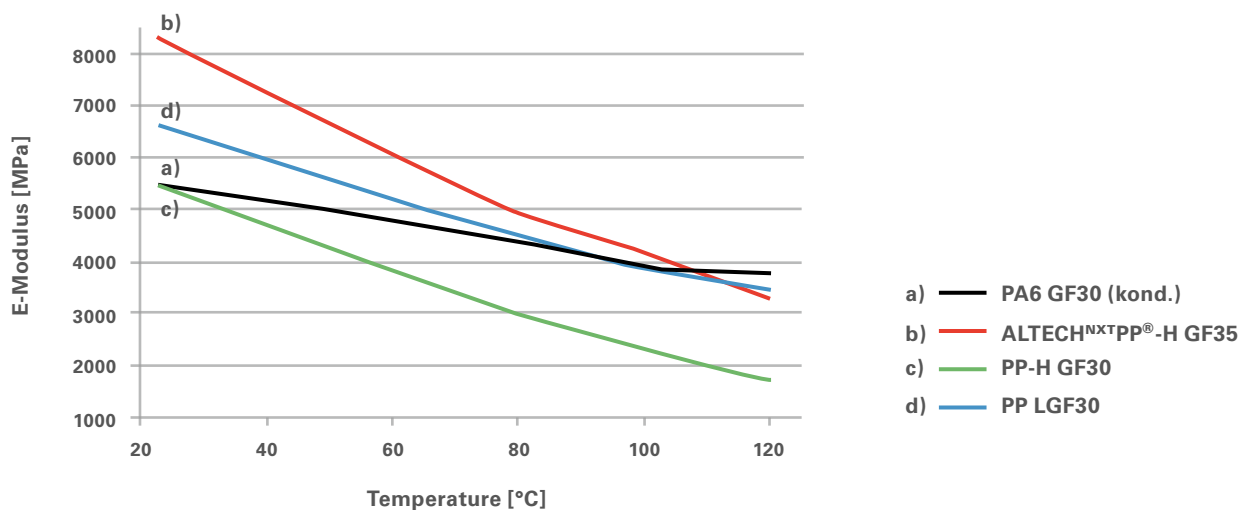
The ALTECH<sup>NXT</sup>PP<sup>®</sup> portfolio comprises several grades with different glass fiber contents and special additive packages, e.g. for UV resistance or for low emission in automotive interior applications.

## ALTECH<sup>NXT</sup>PP<sup>®</sup>: advantages at a glance

- Significant weight saving compared with Nylon
- High stiffness and strength
- Excellent heat aging resistance
- Good chemical resistance
- Easy flow, robust processing
- Uniform, low shrinkage and low warpage potential
- Low emission grades available

| Material                            | Tensile modulus<br>ISO 527-1/-2<br>[MPa] | Tensile stress<br>at break<br>ISO 527-1/-2<br>[MPa] | Tensile elongation<br>at break<br>ISO 527-1/-2<br>[MPa] | Charpy Impact<br>strength (23 °C)<br>ISO 179/1eU<br>[kJ/m <sup>2</sup> ] | Charpy Impact<br>strength (23 °C)<br>ISO 179/1eA<br>[kJ/m <sup>2</sup> ] | HDT/A<br>(1.8 MPa)<br>ISO 75<br>[°C] | Density<br>ISO 1183<br>[g/cm <sup>3</sup> ] | Comments         |
|-------------------------------------|--|---|---|--|--|--------------------------------------|---|------------------|
| AT NXT PP-H A 2030/450.02 GF30      | 7000                                     | 90  | 2.5   | 50   | 9  | 150                                  | 1.12  | Standard         |
| PP-H GF30                           | 5500                                     | 55  | 2.0   | 12   | 5  | 138                                  | 1.12  |                  |
| PA6 GF30                            | 9000/5500                                | 170/90  | 3.0/6.0   | 70/89  | 10/19  | 210                                  | 1.36  | Dry/Conditioned  |
| AT NXT PP-H A 2035/450.00 GF35      | 8500                                     | 100   | 2.7   | 60   | 10   | 160                                  | 1.17  | Standard         |
| AT NXT PP-H A 2035/752.02 GF35      | 8400                                     | 100   | 3.0   | 50   | 9  | 157                                  | 1.18  | UV-Stabilization |
| AT NXT PP-H A 2040/450.02 GF40      | 9600                                     | 100   | 2.4   | 50   | 8  | 155                                  | 1.23  | Standard         |
| AT NXT PP-H A 2040/456.02 GF40      | 9600                                     | 100   | 2.4   | 50   | 8  | 155                                  | 1.23  | Low Emission     |
| AT NXT PP-H A 2050/450.02 GF50      | 11500                                    | 110   | 2.0   | 50   | 9  | 160                                  | 1.34  | Standard         |
| AT NXT PP-H A 2050/456.02 GF50      | 11500                                    | 110   | 2.0   | 50   | 9  | 160                                  | 1.34  | Low Emission     |
| AT NXT PP-H A 2330/456.02 GF20 GB10 | 5700                                     | 85  | 3.0   | 50   | 8  | 155                                  | 1.13  | Low Emission     |

## E-Modulus over different temperatures



ALTECH<sup>NXT</sup>PP® offers great advantages in the substitution of polyamides. During conditioning, polyamides lose their stiffness, while polypropylene is hardly affected. The determination of the tensile modulus of elasticity over different temperatures (see diagram) also shows that there is an advantage over conditioned polyamides over a wide temperature range.

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