Press Release

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Brenntag pushes ahead with product development in metal substitute materials

With its NYLAFORCE® dynamic-2 A 60, Brenntag, the global market leader in chemical distribution, has presented the latest generation of metal substitute compounds. These are true multi-talents offering a universal application profile. In addition to automotive, aerospace and marine applications, the compounds are suitable for use in mechanical engineering, industry, E & E, consumer goods, architecture and construction, oil and gas, sport and leisure, and a large number of other sectors.

NYLAFORCE® compounds have been a convincing metal substitute across-the-board for many years. Substitution by NYLAFORCE® products greatly optimises the factors of time, cost and weight. The compounds’ maximum flexibility, functionality and scope for design are further arguments in favour of the use of these stabilised PA materials with their high level of glass fibre reinforcement.

With the further development of NYLAFORCE® dynamic-2 A 60, Brenntag GmbH has now given another clear boost to the outstanding physical and mechanical product properties of this series.

NYLAFORCE® dynamic has been specially designed for applications that are subject to high dynamic loads and stands out through its very high mechanical strength and excellent elongation. A high tensile modulus ensures the necessary dimensional stability. Tensile strengths of up to 320 MPa with a very high elasticity, an elongation at break of 2.7% and excellent shape stability, coupled with low warpage, clearly highlight the enormous performance of these compounds, making them ideal for demanding technical applications.

Taking the example of the automotive industry as an innovation driver – with its continually increasing, multiple standards – it is clear just how complex the requirements on construction materials are today. The potential of the NYLAFORCE® series is especially evident in the automotive field. The A types (PA 66) are noted for their enormous strength even at high temperatures. Heat-stabilised grades have thus become established especially for high-strength
parts that are subject to extreme thermal loading, such as in the engine compartment. With maximum functionality for a minimum weight, they offer enormous savings potential and ecological advantages. Substituted elements and structures in automotive or aerospace systems, for example, permit a clear reduction in both the volume price and fuel consumption.

The key factor behind the excellent features of NYLAFORCE® is an innovative production technology, known as the feed-up process, which permits the gentle implementation and optimum bonding of the glass fibres in the polymer matrix. The mechanical properties generated in this way are unique in the field of highly-reinforced thermoplastics.

And it is not only functional parts that can be substituted by NYLAFORCE®. The excellent surface finish, especially of the B types based on PA 6, make the materials suitable for visible parts too. Elaborate finishing work and additional painting can be dispensed with. System costs can be reduced and productivity, efficiency and continuity boosted in the production process.

NYLAFORCE® compounds additionally offer better processing properties than semi-aromatic polyamides. Complex moulds can also be readily filled, despite the higher level of glass fibre reinforcement. For developers and designers, this means maximum freedom in part and mould design. New functions can be taken into account and integrated in components, and part quality can be kept at a constant level. These are positioning factors for customers, enabling them to present themselves on a broader footing than their competitors on the market.

By modifying or adding special stabilisers to the standard NYLAFORCE® grades, it is also possible to integrate a number of functional elements in the materials at one and the same time. Users benefit from this functional integration in their projects. Depending on the customer’s specific material requirements, the product properties can be specially developed and optimised, permitting special impact-resistant or hydrolysis-resistant grades to be achieved. NYLAFORCE® compounds are suitable for both injection moulding and extrusion.
Brenntag GmbH acquired LEIS Polytechnik, the company that developed and produces NYLAFORCE®, at the start of 2017. In its more than 25 years specialising in plastics, LEIS has built up particular competences precisely in the fields of metal substitution and customised product development. With this acquisition, Brenntag similarly took over the know-how, skills and experience available in the company and, since then, has also developed and produced its own compounds, supplemented by a broad range of additional leading brands.

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About Brenntag GmbH:
Brenntag GmbH is the German subsidiary of the Brenntag Group, the global market leader in chemical distribution. Offering comprehensive solutions as well as individual chemical products, we employ some 1,200 people at 16 locations throughout Germany. Our extensive range of products and services includes more than 10,000 industrial and specialty chemicals as well as just-in-time delivery, product mixing, formulation, repackaging, inventory management and application Technology.

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