**CALCIUM CARBONATE: DESIGNED FOR PP SPUNMELT AND OMYA- LAID NONWOVENs**

Omya is a global producer of calcium carbonate for industrial applications. It is a privately owned Swiss company with more than 175 plants and own mineral deposits around the world.

Calcium carbonate can be found everywhere in daily life. It is used widely as a coating agent for paper and paperboard as well as for paints, as an additive in food/pharma and cosmetics, as a soil fertilizer in agriculture, for water remineralization, for the gas desulfurization and many other applications.

In plastics the first applications date back in the 50s of the last century when Omya introduced the first surface coated calcium carbonate for PVC applications. Since then the mineral has become an integral part of many formulations for wire and cables, pipes, conduits and profiles. Later, more and more applications in other polymers such as PS, UP, PUR, PA, ABS or PET were established.

Polyolefins are also a major application of calcium carbonate. Sheets for thermoforming, PP raffia tapes and injection molded articles typically contain up to 40 per cent of mineral. Shopping bags or T-shirt bags used in packaging are loaded with 5 per cent and actual EU regulations and for further regulatory requests Omya is committed to support our partners during this implementation phase. They can count on the technical advice from Omya’s technical service.

**Omyafiber®**

Omyafiber® 800 is produced by Omya as a calcium carbonate powder. It is therefore essential to develop tailor-made solutions to fulfill the specific requirements of these markets.

Omya relentlessly pushes the boundaries of established applications and introduces novel products to open new markets. Key to our success has been addressing all aspects along the value chain from raw materials, formulations, compounding, converting down to the end application. A good example of Omya’s perseverance in innovation is the development of the new Omyafiber® 800 calcium carbonate for PP spunmelts and dry-laid nonwoven fabrics. This product is specifically designed to provide an attractive solution which creates value for our customers.

It is a fine ground calcium carbonate that is naturally very pure. The particle size and the particle size distribution are tailored to achieve outstanding processability and fiber properties. A new and improved proprietary surface treatment is applied to the calcium carbonate to achieve excellent dispersion of the mineral particles in the polymer matrix. It allows enhanced processability and optimized compatibility. The product is food contact approved according FDA and actual EU regulations.

The trials proved that Omyafiber® 800 caused no die build-up at the spinneret nor any extrusion pressure evolution during processing. The processes ran stable without fiber breakage. The evaluations helped to establish the know-how to optimize the process. More detailed technical results are available from Omya for further discussion.

To realize all beneficial features with Omyafiber® 800 it is important to ensure high quality along the value chain from raw material producer via the compounders to the nonwoven producers. Therefore, Omya is committed to support our partners during this implementation and optimization phase. They can count on the technical advice from our dedicated and experienced scientists and engineers. Our technical experts rely on state of the art technical centers around the globe. Their technical service is based on application-related and analytical tests in Omya’s laboratories. It also includes hands-on support in our customer’s production sites.

**Figure 1: How to incorporate Omyafiber® 800 into the PP nonwoven fabric**

**Figure 2: PP multifilament fibers containing 10% Omyafiber® 800 showing perfect mineral dispersion**

**Figure 3: Close collaboration of all stakeholders along the value chain is key for a successful product introduction**

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