

Polymers

# Fibers & Nonwovens

Where sustainability meets innovation



THINKING OF TOMORROW





# About Omya

Omya is a leading global producer of industrial minerals and a worldwide distributor of specialty materials. Founded in Switzerland in 1884, we employ 9,000 people across 170 locations in 50 countries. Omya provides added-value products and services from responsibly sourced materials to meet the needs of current and future generations.

Customers rely on us for a comprehensive range of sustainable, high-quality products, backed up by exceptional customer service, regulatory advice and quality control.

Our focus on 'Thinking of Tomorrow' leads to the development of innovative, reliable solutions that help customers solve their challenges.

## Adding customized value to the polymer industry

In the polymer industry, our solutions enhance processes and improve properties for many applications. The unique surface treatment and high purity of the tailor-made calcium carbonate, Omyafiber 800, is designed to add value in fibers and nonwovens production.

Omyafiber allows manufacturers to improve sustainability while optimizing raw material costs and the quality of their fibers and nonwoven fabrics.



**PE breathable film  
PP spunbond**

**PP staple fibers  
& yarns**

**Polyester (PET)  
fibers & nonwovens**

**Polylactic acid (PLA)  
fibers & nonwovens**

## Exploring new ways – CaCO<sub>3</sub> within the Nonwoven Industry

Advantages in performance, processing & economics with Omyafiber 800

### Key benefits for PP fibers and nonwoven manufacturers

- ✓ Sustainable and renewable raw material
- ✓ Higher whiteness and opacity with Omyafiber 800
- ✓ Natural cotton-like haptics and softness of spunlace fabrics
- ✓ Maintained mechanical properties of high and low grammage fabrics
- ✓ Substantial cost savings
- ✓ Reduced static charge during processing and on the final fabric
- ✓ Proven processability on industrial nonwoven lines
- ✓ No die build-up at spinneret, no extrusion pressure evolution
- ✓ Food contact approved, non-skin irritation or sensitization

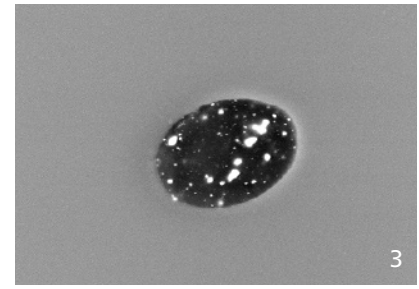
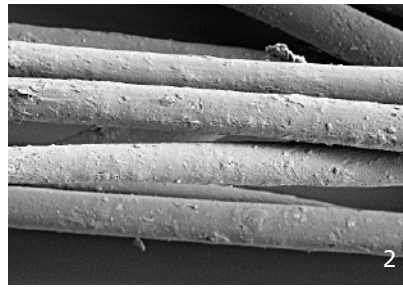
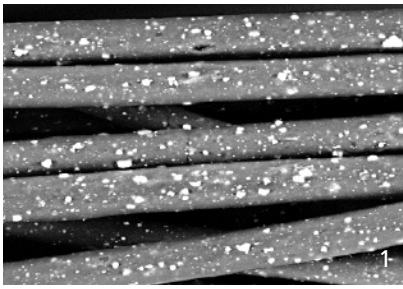
### Index People's Prize Award for Omyafiber

Omyafiber 800, a new innovative solution from Omya designed for PP spunmelt and dry-laid nonwovens won the Index People's Prize Award for most liked industry innovation of 2020, by EDANA association.

Omyafiber 800 complies with food contact regulation, is non-skin sensitized, and offers improved haptic properties and cost savings.



# PP multifilament fibers containing Omyafiber 800



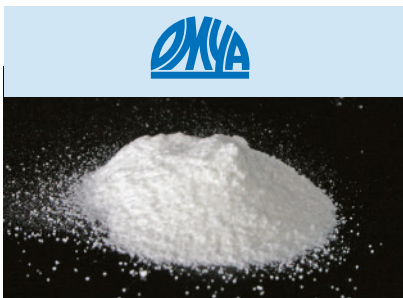
Addition of 10% Omyafiber: 1 Mineral dispersion / 2 Fiber surface / 3 Fiber cross-section

## Key benefits for masterbatch compounding

- ✓ Marble-based, fine ground calcium carbonate of high purity and whiteness
- ✓ Tailored particle size and distribution providing excellent dispersion
- ✓ New proprietary surface treatment for enhanced processability and optimized polymer compatibility

## How to incorporate Omyafiber 800

Omyafiber 800 is added to PP fibers and nonwovens spinning in form of a masterbatch. Its high purity and unique surface treatment provide significant advantages in both masterbatch compounding and nonwoven production.



100% Omyafiber



70% Omyafiber  
in PP masterbatch



Virgin PP plus  
Omyafiber masterbatch

| Typical formulation for spunbond nonwoven fabric  |  | %  |
|---|--|----|
| Polypropylene, PP homopolymer MFR = 25 - 35 (230°C, 2.16 kg)                            |  | 84 |
| Color Masterbatch (optional)  |  | 2  |
| Omyafiber 800 Masterbatch (70%) PP based, Filter pressure value (FPV) at 25 µm very low |  | 14 |



### Carbon footprint of CaCO<sub>3</sub>

**300** kg of CO<sub>2</sub> equivalents per ton of surface treated natural ground calcium carbonate (GCC)

SOURCE:  
IMA EU27 energy mix; based on production capacity mix

## Bringing sustainability into nonwoven applications

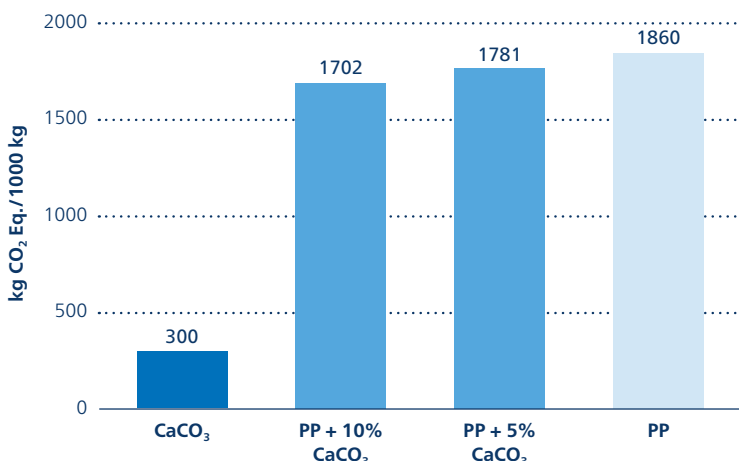
Calcium carbonate is beneficial from a sustainability perspective as it has a substantially lower carbon footprint than PP resin and improves the emissions profile, while also displacing resin. In addition, ground calcium carbonate is a natural and a renewable raw material which is compatible with common recycling processes.

Calcium carbonate is a naturally occurring material which does not involve any energy-consuming chemical reaction. Its carbon footprint is significantly lower than synthetic polymers. To establish sound numbers for lifecycle analysis studies the IMA, an industrial mineral organization in Europe, has initiated an independent evaluation of the emissions needed to produce calcium carbonate grades for industries like polymer processing. The calculation is based on the European EU27 energy mix.

For Omya, sustainability is the key to future success. Calcium carbonate improves sustainability in nonwovens.

## Reduced emission of greenhouse gases (GHG)

### Greenhouse Gas Emissions



Calcium carbonate drives sustainability. Our customers, like many that are heavily dependent on fossil based polymers, are working to reduce the environmental impact of production and products.

Using 10% CaCO<sub>3</sub>:  
10% less PP contributes to ~9% less GHG (Constant basis weight)

# The versatility of Omyafiber 800 in the nonwoven industry



Personal Care



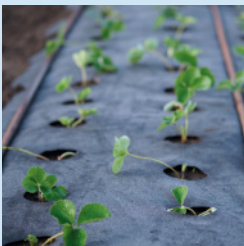
Sanitary & Hygiene



Building



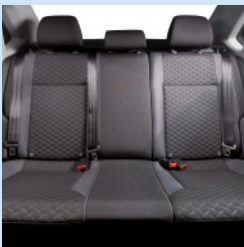
Construction



Agro & Geotextiles



Medical



Automotive

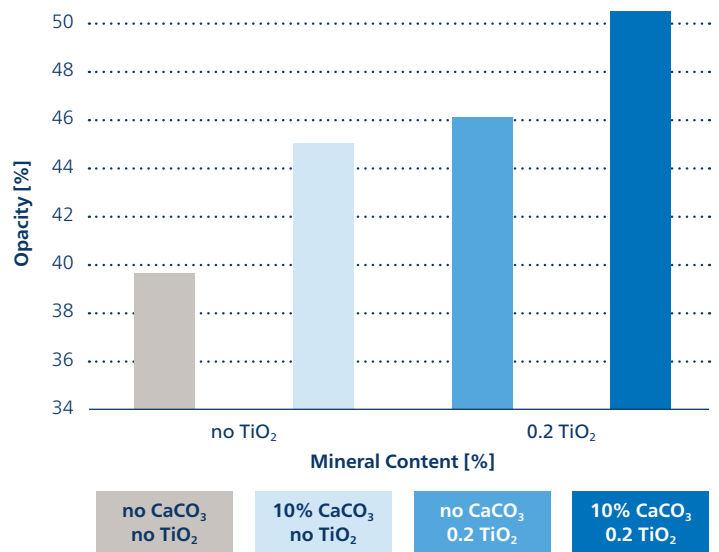


Household



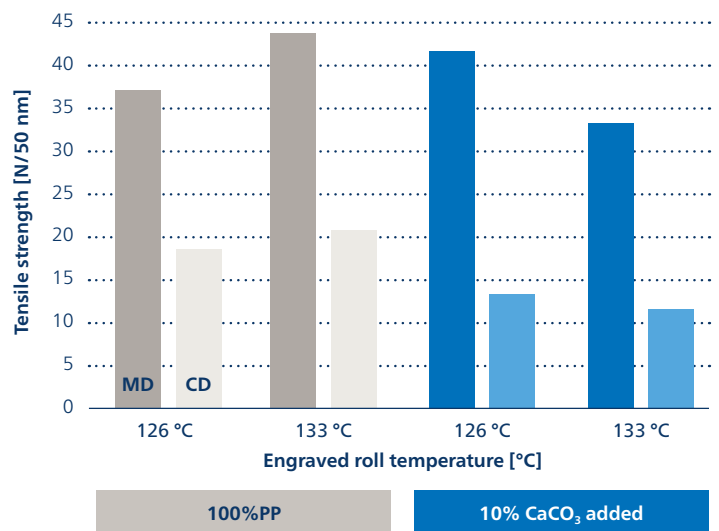
Filtration

## Improved opacity and whiteness of PP nonwovens



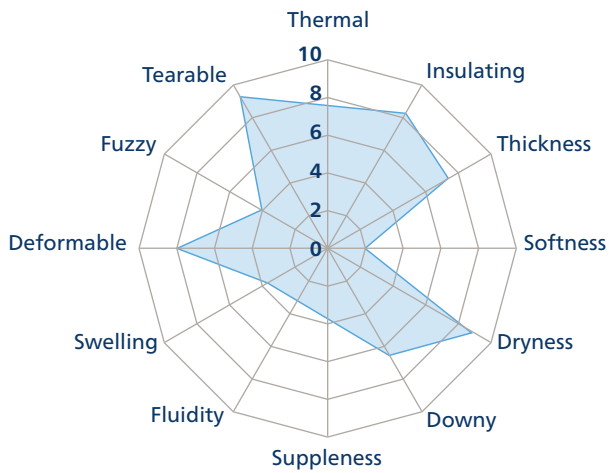
- ✓ PP spunbond, thermobonded, 56 gsm
- ✓ Highest opacity reached with combination of CaCO<sub>3</sub> and TiO<sub>2</sub>
- ✓ 10% CaCO<sub>3</sub> vs. 0.2% TiO<sub>2</sub> with very similar opacity

## Maintained mechanical properties of PP nonwovens

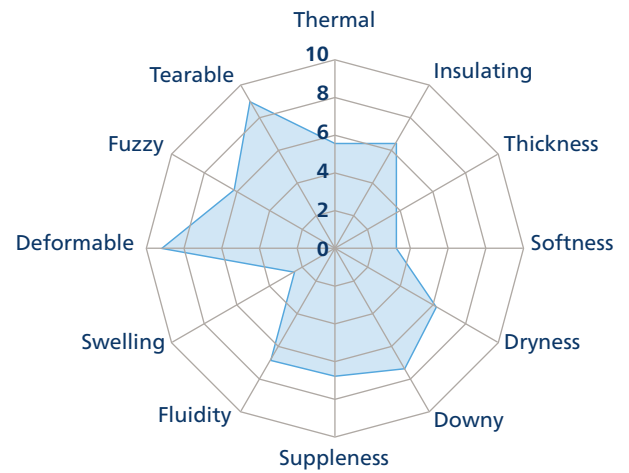


- ✓ PP spunbond, thermobonded, 15 gsm
- ✓ For best bonding: Bonding temperature should be lowered by 5-10 °C
- Energy savings!

# Calcium carbonate improves tactile properties of PP wipes



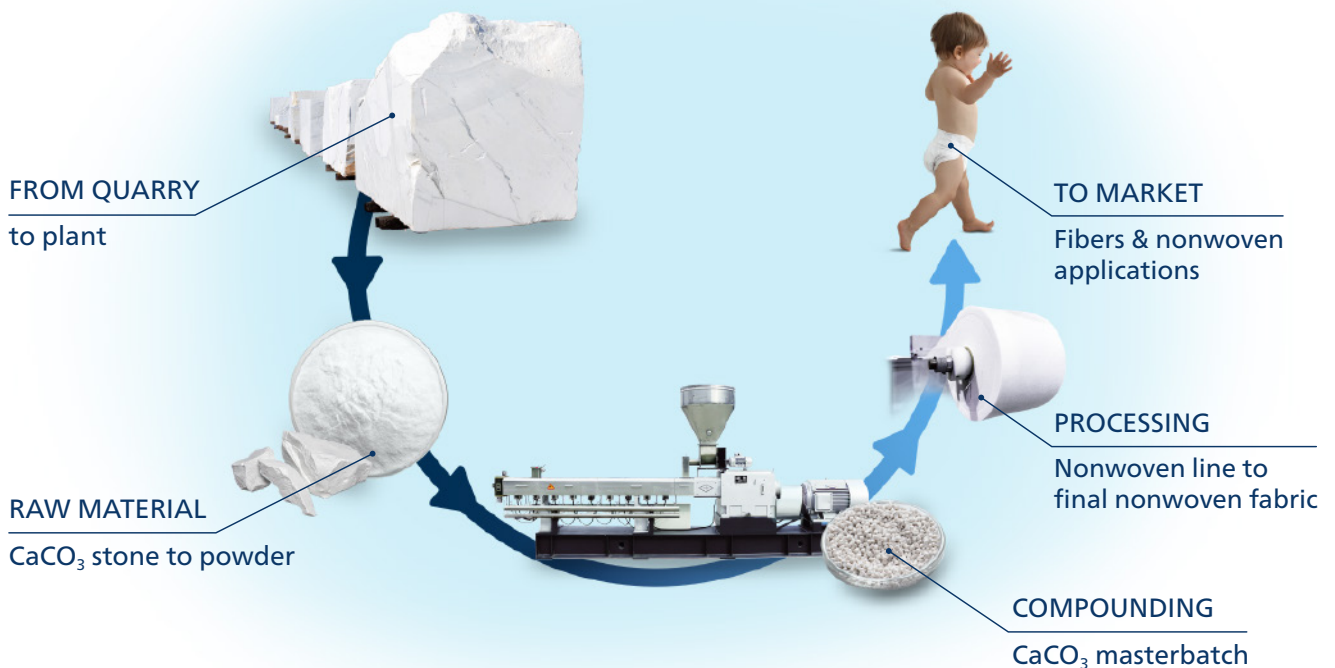
Carded + hydro-entangled, 40 gsm  
PP neat



Carded + hydro-entangled, 40 gsm  
PP + 10 % CaCO<sub>3</sub>

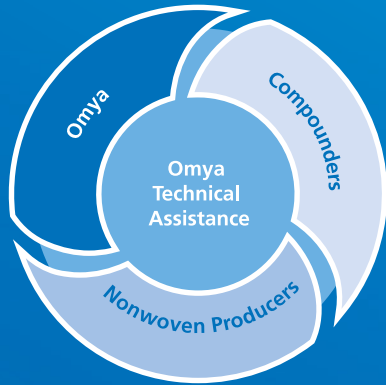
Evaluation by independent Sensory Expert Panel: IFTH France

## From quarry to market



# Omya Technical Assistance

Competent advice on implementation & cost optimization



With our state-of-the-art technical center and sound technical expertise, Omya provides Technical Services to all players along the value chain.

Our experts assist you in every step of your manufacturing process, from application-related and analytical tests in our laboratories to hands-on support at your production site.

Omyafiber is a registered trademark of Omya AG in the European Union and multiple other countries.

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Source: Omya International (2025/06)

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