



enhanced  
by Omya

# Profile

Calcium Carbonate for  
PVC Profile Applications



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## About Omya

Omya is a leading global producer of industrial minerals – mainly mineral modifiers derived from Calcium Carbonate and Dolomite – and a worldwide distributor of specialty chemicals. The company provides a wealth of product solutions that contribute to its customers' competitiveness and productivity in multiple industries such as Construction, Printing & Writing, Technical Polymers, Packaging, Food, Personal & Home Care, Pharmaceuticals, Agriculture, Forestry, Water and Energy. Founded in 1884 in Switzerland, Omya has a global presence extending to more than 175 locations in over 50 countries with 8,000 employees.

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*Omya offers a large portfolio ranging from established qualities to innovative ultrafine, treated grades that provide top-level optical and mechanical benefits and an excellent cost performance ratio for high quality PVC profiles.*

# Omya Calcium Carbonate – the benchmark for PVC profiles

Our natural Calcium Carbonate have been indispensable ingredients in PVC window profile formulations for decades. In particular, they increase the profiles' stiffness and reduce the dilatation. The higher stiffness allows producers to reduce the wall thickness in some applications and therefore leads to material cost savings. Omya Calcium Carbonate also provide substantial benefits in processing: melt strength is increased and the high thermal conductivity of the mineral shortens cooling time which in turn leads to higher output.

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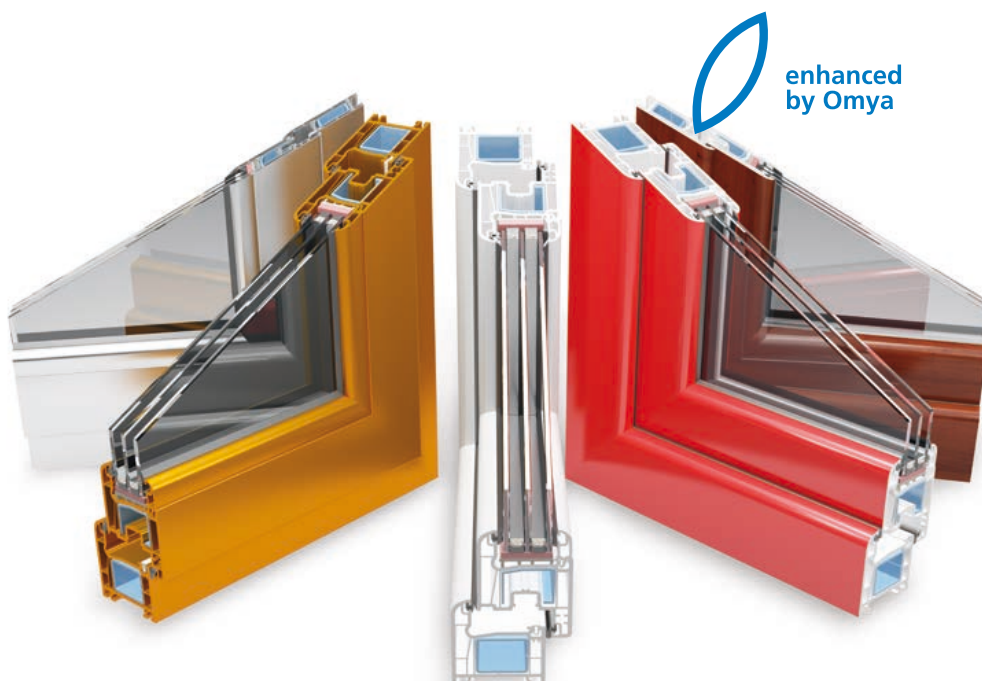
## *Benefits*

### WINDOW PROFILES

- *Excellent surface gloss*
- *Increased stiffness*
- *Process enhancement*
- *Substantial cost reduction*

### TECHNICAL PROFILES

- *Increased stiffness*
- *Good processing even at high loadings*
- *Reduced wall thickness*
- *Substantial cost reduction*





# A vast portfolio that meets global requirements

To meet the demanding requirements regarding optical and mechanical performance in profile applications, we recommend very fine and treated Omya Calcium Carbonate grades.

With these tailor-made products, we are addressing and satisfying the needs of the industry offering applications such as:

- **Window Profiles**
- **Siding**
- **Fencing**

Our customers can choose among a vast portfolio in all regions, satisfying specific needs and individual requirements for the benefit of their PVC applications and their customers along the value chain.





We partner  
with the entire  
value chain to  
differentiate  
end products.

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*Unique performance to  
simultaneously improve:*

- *Profile surface gloss*
- *Impact resistance*
- *Processing*



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# Process enhancement with Omya Calcium Carbonate

The higher thermal conductivity of Calcium Carbonate compared to the PVC resin, as well as better processing by increased homogenization in the melt, are valuable benefits of Calcium Carbonate in PVC profile extrusion.

|                       | Calcium Carbonate     | PVC                    |
|-----------------------|-----------------------|------------------------|
| Thermal conductivity  | 2.2 W/m·K             | 0.2 W/m·K              |
| Dilatation (0–100 °C) | 11 <sup>10-6</sup> /K | 200 <sup>10-6</sup> /K |



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# Omya offers a wide portfolio for all types of PVC windows

Our wide portfolio allows to improve the cost/performance ratio in any application. The customer can choose among the Hydrocarb or Omyacarb family to find the optimum balance of properties.

| Typical Effects<br>on the example window<br>profile (16 phr)  | Hydrocarb 95T | Omyacarb 1T    | Omyacarb 2T  | *Hydrocarb<br>UFT Extra | *Omyacarb<br>UFT |
|---|---------------|----------------|--------------|-------------------------|------------------|
| Description   | Fine grade    | Standard grade | Coarse grade | Fine grade              | Fine grade       |
| Gloss [gloss units]   | 30            | 20             | 15           | 96                      | 96               |
| Relative Torque:<br>Hydrocarb 95T = 100 %<br>[% machine load] | 100           | 90             | 85           | 100                     | 95               |
| Impact resistance<br>[KJ/m <sup>2</sup> , ISO 179 1fC]        | 50            | 35             | 30           | 68                      | 65               |

\* Typical Effects at 8 phr

## Omya Technical Polymer Applications

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+41 62 789 29 29  
plastics.info@omya.com

Omya International AG  
CH-4665 Oftringen  
www.omya.com



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**THIS PAPER CONTAINS  
OMYA PIGMENTS**