





Welcome to Omya

Omya is a leading global producer of essential minerals, and a worldwide distributor of specialty materials.

For 140 years, we have had a positive influence on people's lives, developing solutions to everyday challenges that are practical, efficient and sustainable.





Making life better

Our company purpose, "Making life better through our passion for minerals and chemistry" unites our 9,000 employees around the world. From the scientists in our innovation labs to the engineers overseeing our production plants and the teams working with customers day in day out, we are always Thinking of Tomorrow and how we can improve life for current and future generations.

This often means finding ways of helping our customers become more sustainable, by reducing their carbon footprint, optimizing their use of resources, minimizing waste, improving circularity or protecting the environment.

Sustainability is key

As a global business, operating in more than 50 countries, we recognize the substantial impact of our operations on the diverse communities and economies in which we operate, and on the environment.

Omya is committed to balancing economic success with environmental stewardship and social equity, and helping our customers meet their own sustainability goals through the use of our natural mineral solutions.

This toolkit for sustainable paints and coatings is an example of that commitment.



How many ways can you make your paint more sustainable?

Sustainable together

Omya works closely with customers to formulate sustainable paints and coatings to meet the market's needs.

A complete toolkit

Our 'Sustainability Toolkit' offers solutions that respond to the full range of market, sustainability and regulatory needs. Our worldwide technical experts support you in selecting, formulating and implementing sustainable solutions for paints and coatings.

These solutions will help you align with SDGs, ESPR criteria and improve your LEED score for building development.

The United Nations Sustainable Development Goals (SDGs or Global Goals)

were adopted in 2015 as a universal call to action to ensure that by 2030 all people enjoy peace and prosperity.

Eco-design for Sustainable Products

Regulations (ESPR) is a package of measures which will contribute to helping the EU reach its environmental and climate goals, doubling its circularity rate of material use, and achieving its energy efficiency targets by 2030.

The LEED Green Building Rating System (LEED certification) is a globally recognized measure of sustainability for buildings and communities.

The 5 keys to Omya's Sustainability Toolkit

Enhancing sustainability goes beyond lowering carbon footprint. Since 1884, Omya has supported customers in understanding and meeting the needs of their markets, which are now more and

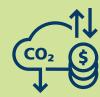
more attentive towards sustainable requirements. From decarbonization to dehazardization, circularity to safety, and much more, we can help you make your formulations more sustainable.

Decarbonization – costs/performance

Boost performance, improve opacity and reduce formulation costs whilst lowering your carbon footprint. 2

Dehazardization

Reduce substances of concern, replace hazardous materials in your formulations and improve their durability.





5

Formulation intelligence powered by AI

Achieve reformulation efficiency and accelerate go-to-market for sustainable solutions with our fully automated lab, powered by advanced AI-driven formulation intelligence.



The five keys to sustainable paint



5

Circularity

Omya's options enable a lower carbon footprint and increased recycled content in your paint, supported by thirdparty certifications.



Comfort

Create healthier working conditions with lightweight fillers, providing reduced weight and easier application. They also enhance comfort through improved thermal insulation, leading to energy savings.

Your complete sustainability partner

Today's paint challenges demand more than individual products – they require integrated solutions. Omya's toolkit delivers this by combining our innovative sustainable product portfolio with

comprehensive technical expertise and support. This powerful combination of products and knowledge ensures your success in developing high-performance, sustainable paints.

Product portfolio



ChameleoBoost™ Technology

Omya's unique technology to optimize opacity, balance formulation cost and reduce carbon footprint.



Omyasmart Technology

Multifunctional neutralizing agents with a triple effect combining elevated pH value, pH buffering and salt technology.



Omyacycle

Certified recycled and decarbonized calcium carbonate of controlled quality for the construction industry.



Omyasphere

Lightweight fillers that reduce the weight, increase thermal insulation and increase the solar reflective index of paint & coating formulations.



Omyamatt

The non-silica-based matting agent supporting high opacity, stain resistance, whiteness, and low yellowness.



Flexshuttle

The first fully automated formulation laboratory for the mineral industry for faster evaluation, creative solutions, and efficient processes.

Technical support

To meet the demands of end users, paint producers must offer a range of options. From durability to affordability, stain resistance to hiding power, modern paints must deliver high performance whilst minimizing environmental impact.

Omya's global technical expertise will support you in meeting your goals. This includes our advanced Flexshuttle automated testing system, enabling rapid formulation development with up to 50 samples per day.

Global support and international expertise

With technical laboratories at our headquarters in Switzerland, and dedicated regional technical service hubs throughout Europe, the Americas, Middle East and Asia, Omya offers laboratory analysis, reformulation support and implementation assistance to customers worldwide to deliver comprehensive and sustainable solutions with improved performance.



Technical



Application



Analytical



Regulatory



Your technical notes

| | • • • • • • | | |
|------|------|------|------|------|------|------|------|-------------|------|------|
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ChameleoBoost[™] Technology



Cost & performance optimization

Rising TiO₂ costs and environmental regulations create a dual challenge: maintaining paint performance while reducing formulation costs and carbon footprint.

ChameleoBoost[™] Technology addresses this by optimizing opacity and TiO₂ content in your formulations, enabling you to achieve both economic and environmental goals without sacrificing quality.

The challenges for water-based decorative paints





Cost reduction

- Reduce formulation costs
- Stay competitive
- Speed up trials with digitalization



Sustainability

- Lower carbon footprint
- Minimize environmental impact
- Reduce volatile organic compounds (VOCs)

Benefits

Carbon footprint and cost reduction

 Boosting opacity at required gloss from matt to high gloss paints

- Effective TiO₂ and partial binder substitution
- High brightness



Omya related mineral solutions

UFGCC

Ultra fine ground CaCO₃

- Dry (Calcigloss, Omyacoat)
- Slurry (Omyaflow)

UFGCC strengths

for water/solvent-based, interior/ exterior paints:

- Extra high gloss
- Easy to disperse
- Simplicity in production
- Suitable for all paint types

PCC

Precipitated CaCO₃

Omyawhite

Omyawhite strengths

for water-based semi-matt and matt paints:

- Outstanding brightness/ whiteness
- Improved opacity
- Enhanced wet scrub resistance

MCC

Modified CaCO₃

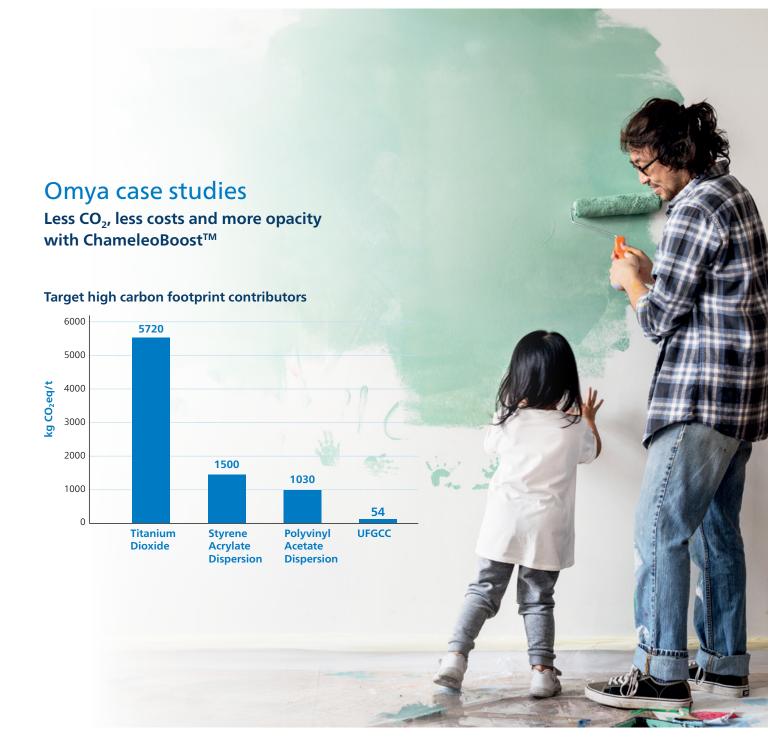
Omyabrite

Omyabrite strengths

for water-based matt paints:

- Enhanced TiO₂ extension
- Excellent balance between high opacity and low sheen
- Significant cost savings





Omya case studies

Less CO₂, less costs and more opacity with ChameleoBoost™ for your

PVC 60 – Carbon footprint reduction - Increased circular content- Same performance

Reference formulation

| Composition (by weight in %) | |
|---|--------|
| Water & additives | 22.90 |
| | |
| Commercial polyacrylate dispersant | 0.40 |
| Rutile titanium dioxide (TiO ₂) | 16.00 |
| CaCO ₃ D50 = 2.5 μm | 14.00 |
| CaCO ₃ D50 = 10 μm | 20.00 |
| Commercial binder, 47 wt.% Acrylic | 26.20 |
| Commercial HEUR polyurethane thickener | 0.50 |
| Total | 100.00 |

| Paint properties | |
|--|--------------------|
| PVC [%] | 60.0 |
| Ry over black/Ry over white 150 μm gap [%] | 85.0 / 90.9 |
| Contrast Ratio 150 µm gap [%] | 93.5 |
| Sheen 85° [GU] | 2.0 |
| Sustainability | |
| Carbon footprint CO ₂ [in kg/t] | 1400 |

Optimized formulation 1

| Composition (by weight in %) Water & additives | 22.90 |
|--|--------|
| Commercial polyacrylate dispersant | 0.40 |
| Rutile titanium dioxide (TiO ₂) | 13.50 |
| CaCO ₃ D50 = 2.5 μm | 17.50 |
| CaCO ₃ D50 = 10 μm | 10.00 |
| Omyacoat 420 functional CaCO₃ D50 = 1.1 μm | 9.00 |
| Commercial binder, 47 wt.% Acrylic | 26.20 |
| Commercial HEUR polyurethane thickener | 0.50 |
| Total | 100.00 |

| Paint properties | |
|--|--------------------|
| PVC [%] | 60.0 |
| Ry over black/Ry over white 150 μm gap [%] | 84.8 / 90.2 |
| Contrast Ratio 150 µm gap [%] | 93.9 |
| Sheen 85° [GU] | 4.0 |
| Cost & Sustainability | |
| Cost variance (vs. Traditional F./ Baseline Ref.) (%) | -4% |
| Carbon footprint CO ₂ [in kg/t] | 1250 |
| <u> </u> | |

15% reduced

PVC 80 - Carbon footprint reduction - Increased circular content- Same performance

Reference formulation

| Composition (by weight in %) | |
|---|--------|
| Water & additives | 34.10 |
| Commercial polyacrylate dispersant | 0.40 |
| Rutile titanium dioxide (TiO ₂) | 5.00 |
| $CaCO_3 D50 = 2.5 \mu m$ | 35.00 |
| CaCO ₃ D50 = 10 μm | 15.00 |
| Commercial binder, 50 wt.% Styrene acrylic | 10.00 |
| Commercial HEUR polyurethane thickener | 0.50 |
| Total | 100.00 |

| Paint properties | |
|---|--------------------|
| PVC [%] | 80.0 |
| Ry over black/Ry over white 150 μm gap [%] | 84.8 / 90.3 |
| Contrast Ratio 150 μm gap [%] | 93.9 |
| Sheen 85° [GU] | 5.2 |
| Sustainability | |
| Carbon footprint CO, [in kg/t] | 470 |

Optimized formulation 1

| Composition (by weight in %) | | |
|---|--------|----------------|
| Water & additives | 34.10 | |
| Commercial polyacrylate dispersant | 0.40 | 200/ |
| Rutile titanium dioxide (TiO ₂) | 3.50 | 30% reduced* |
| $CaCO_3 D50 = 2.5 \mu m$ | 25.00 | reduced |
| CaCO ₃ D50 = 10 μm | 15.50 | |
| Omyacoat 420 functional CaCO ₃ D50 = 1.1 μm | 11.00 | Chameleo Boost |
| Commercial binder, 50 wt.% Styrene acrylic | 10.00 | |
| Commercial HEUR polyurethane thickener | 0.50 | |
| Total | 100.00 | |
| | | |

| PVC [%] | 80.0 |
|---|--------------------|
| Ry over black/Ry over white 150 μm gap [%] | 84.7 / 90.1 |
| Contrast Ratio 150 µm gap [%] | 94.0 |
| Sheen 85° [GU] | 5.9 |

Baseline Ref.) (%)

Carbon footprint CO, [in kg/t]

18%

-5%

380

water-based deco-pain

Optimized formulation 2

| Composition (by weight in %) | | |
|--|----------------------|--|
| Water & additives | 22.90 | |
| Ecodis P 50 MB (by Arkema) | 0.40 | |
| Rutile titanium dioxide (TiO ₂) | 13.50 | |
| Omyacycle 2 D50 = 2.5 μm | 17.50 | |
| Omyacycle 10 D50 = 10 μm | 10.00 | |
| | | |
| Omyacoat 420 functional CaCO ₃ D50 = 1.1 μm | 9.00 | |
| | 9.00 26.20 | |
| functional CaCO ₃ D50 = 1.1 μm Encor 2797 MB 47 wt.% | | |

| 15% reduced* |
|----------------|
| Omyacycle |
| Chame eoBoost™ |

| Paint properties | |
|---|--------------------|
| PVC [%] | 60.0 |
| Ry over black/Ry over white 150 μm gap [%] | 84.8 / 90.2 |
| Contrast Ratio 150 µm gap [%] | 93.9 |
| Sheen 85° [GU] | 4.0 |

| Cost & Sustainability | |
|--|------|
| Cost variance (vs. Traditional F./ Baseline Ref.) (%) | +4% |
| Carbon footprint CO ₂ [in kg/t] | 1000 |
| % Circular content | 42% |

28% reduced*

Optimized formulation 2

| Composition (by weight in %) | | |
|---|--------|--|
| Water & additives | 34.10 | |
| Ecodis P 50 MB (by Arkema) | 0.40 | |
| Rutile titanium dioxide (TiO ₂) | 3.50 | |
| Omyacycle 2 | 25.00 | |
| Omyacycle 10 | 15.50 | |
| Omyacoat 420 functional $CaCO_3$ D50 = 1.1 μ m | 11.00 | |
| Encor 2426 MB 50wt.% Styrene Acrylic (by Arkema) | 10.00 | |
| Coapur 3020 BB (by Arkema) | 0.50 | |
| Total | 100.00 | |

| Coapur 3020 BB (by Arkema) | 0.50 |
|---|--------------------|
| Total | 100.00 |
| Paint properties | |
| PVC [%] | 80.0 |
| Ry over black/Ry over white 150 μm gap [%] | 84.7 / 90.1 |
| Contrast Ratio 150 µm gap [%] | 94.0 |

| Cost & Sustainability | |
|--|-----|
| Cost variance (vs. Traditional F./ Baseline Ref.) (%) | +5% |
| Carbon footprint CO ₂ [in kg/t] | 230 |
| % Circular content | 47% |

Sheen 85° [GU]

30% reduced*





52% reduced*



Bio based/attributed resins and additives



Achieve even lower carbon footprint with Arkema

Consumers have a clear willingness to adopt a more sustainable and responsible lifestyle through the consumption of products with a reduced impact on the environment, while maintaining a high product safety profile.

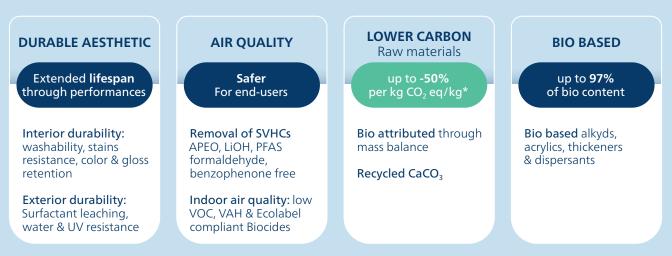
In addition, the building and construction sector being responsible for 37%* of energy-related CO₂ emissions worldwide, a strong need for high performance low carbon solutions has arisen.

^{*}Source: UN Environment Global Status Report 2024



Deco paints major hotspot is coming from the raw materials (~85%)

A full offer for lower carbon footprint decorative paints



^{*}PCF = Product Carbon Footprint cradle-to-gate including biogenic uptake according to ISO 14040, 14044 and 14067. PCF reduction is calculated vs standard fossil-based reference

Premium low carbon footprint interior matt paint

LOW VOC ENABLING & WORKABILITY ALKYD BINDERS

Bio-Based SYNAQUA® 4856

WATER & STAIN RESISTANCE

ACRYLIC BINDERS

Bio-attributed ENCOR® 2797 MB ENCOR® 317 MB

OPACITY MINERALS

Omyacarb Extra Omyacoat Omyawhite Omyabrite

EASE OF APPLICATION & SAG RESISTANCE THICKENERS

Bio-based COAPUR™ 3020 BB COAPUR™ 817 BB

COLOR ACCEPTANCE & PAINT STABILITY DISPERSANTS

Bio-attributed ECODIS™ P 50 MB

ARKEMA

Composition

ARKEMA

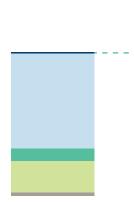


ARKEMA

ARKEMA

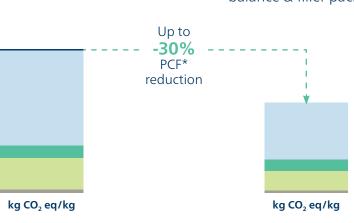
Reference

Formulation



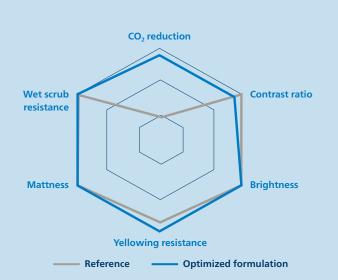
Optimized

Formulation with mass balance & filler package



- Thickeners & dispersants
- Water
- TiO₂
- Minerals
- **Binders**
- Other additives

^{*}PCF = Product Carbon Footprint cradle-to-grave including biogenic uptake according to ISO 14040, 14044 and 14067. PCF reduction is calculated vs standard fossil-based reference



Maintained performance with optimized TiO₂ content



Omyasmart

The smart alternative for stabilizing water-based systems

Omyasmart technology is based on multifunctional neutralizing agents with a triple effect combining elevated pH value, pH buffering and salt technology. These physical effects operate synergistically, creating an environment which is unsuitable for microbial growth. The inorganic products are mixtures of mineral salts and are white powders.



Dehazardization

The challenges for stabilizing water-based decorative paints

Regulatory

- Biocides create significant health hazards
- New regulations limit the use of hazardous substances

Sustainability

- Minimize the use of hazard substances
- Increase paint shelf life
- Without VOC, emissions and odors
- Product shelf life is affected

Benefits

- Allows biocide-free or biocide-low formulations
- Contains no skin-sensitizing substances
- No hazardous labeling on products
- Less contamination and longer shelf life
- Zero emissions into indoor air
- Odorless without discoloration
- Complies with criteria for the most important Eco labels



Contributes to











Omyacycle Certified recycled content to meet regulations





As EU regulations and the Green Deal push for increased recycled content in paints and coatings, manufacturers need certified recyclable materials that don't compromise quality.

Omyacycle delivers precisely this: certified recycled calcium carbonate processed with renewable energy, enabling you to meet regulatory requirements and sustainability goals while maintaining the high quality standards your customers expect.





The challenges of the circular economy

A circular economy aims to regenerate nature, minimize waste and promote the sustainable use of natural resources, through smarter product design, longer use, and recycling.

There is demand from both the industry and the EU under its Green Deal to enhance the recycled content of paints and coatings products.

Benefits

- Certified recycled pre-consumer material from selected high purity calcium carbonate
- High brightness, untreated and treated products with a wide particle size range covering a broad application spectrum
- Processed using renewable energy
- Lower carbon footprint compared with regular Ground Calcium Carbonate products



Certified



Omyasphere Lightweight solutions





Raised temperatures as a result of climate change have significantly increased the use of air conditioning in buildings, which can account for one third of a total energy consumption. There is greater demand for technologies that reduce emissions from both energy use and transport, whilst also improving health and safety for those working in the sector.



The challenges

Climate & energy

- Climate change drives increased building temperatures
- Air conditioning accounts for 1/3 of total energy consumption coming from building operations
- Need to reduce energy- and transport-related emissions

Material performance

- Need for better insulation properties
- Requirement for high reflective coatings
- Weight reduction while maintaining performance

Operational performance

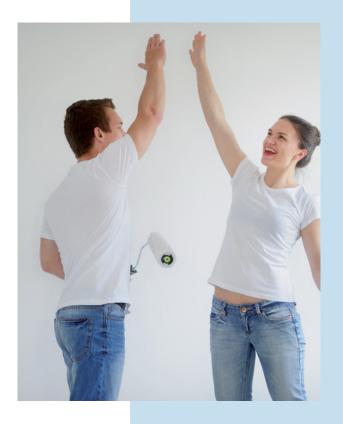
- Health and safety concerns for workers
- Demand for improved working conditions

Benefits

Climate & energy

- Weight reduction at the same spread rate; less material to carry → healthier and safer
- Increased yield (spread rate at same weight) lowering cost /m² → Doing more with less
- Improved workability, sag resistance and easier sandability → Ease of application
- CO₂ reduction during transportation phase
- Increased solar reflective index and better thermal insulation → Less heat build up and Energy savings





Many applications, one portfolio: Omyasphere series

Omyasphere is a complete solution portfolio based on closed-cell expanded perlite and hollow glass microspheres to support your applications.

You can choose from:

- Omyasphere 200 closed-cell expanded perlite
- Omyasphere 400 higher resistance closed-cell expanded perlite
- Omyasphere 900 hollow glass microspheres

Omyasphere is ideal to support carbon footprint reduction. Omyasphere also helps reduce thermal conductivity and related energy consumption, for improved well-being and resource consumption reduction. Lower weight also means ${\rm CO_2}$ emissions reduction during transportation of the end products.

Omyasphere facilitates the recycling of building materials.

Omya case study

The gains of cool roofs and high reflective coatings

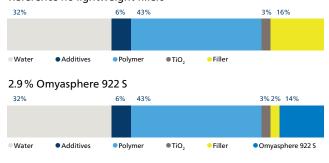
Roof coating density 1.1 kg/L

| | 4.4 log // /DVC - 400/2 |
|---------------------|-------------------------|
| | 1.1 kg/L (PVC ~46%) |
| Component | % by weight |
| Water | 30.56 |
| Dispersing agent 1 | 0.53 |
| Dispersing agent 2 | 0.38 |
| pH regulator | 0.11 |
| Rheology modifier 1 | 0.54 |
| Defoamer | 0.14 |
| Coalescent agent | 0.77 |
| PP glycol | 2.67 |
| Omyacarb10–GU | 3.03 |
| Optiwhite | 3.23 |
| TiO ₂ | 10.79 |
| Acrylic polymer | 43.39 |
| Biocide | 0.23 |
| Omyasphere 922 S | 2.87 |
| Defoamer | 0.23 |
| Rheology modifier | 0.53 |
| Total | 100 |

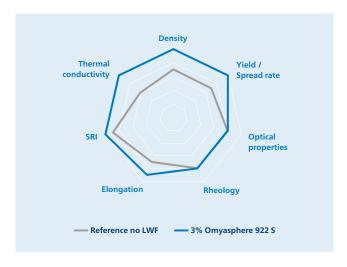
| | Yield per 25 kg | Yield per 100 kg thickness ~ 1 mm |
|---|-----------------|--|
| Standard roof coating compound Density ~ 1.5 kg/l | yields 17L | 100 kg yields ~ 68m² |
| Lightweight roof coating Density ~ 1.1 kg/l | yields 23L | 100 kg yields ~ 91m² |

Volume (%) Roof coating reference

Reference no lightweight fillers



Performance benefits



Omyamatt

Dehazardization

Modified calcium carbonate technology to reduce health and safety risks

Some silica-based matting agents contain respirable crystalline silica particles. Exposure to this hazardous material risks workers' health as breathing in these particles can cause lung disease. Omyamatt modified calcium carbonate has an optimized particle shape

and surface structure which replaces silica, providing high matting efficiency without any health risk. We offer two grades, with different particle sizes, to optimize sheen levels and the surface touch of the applied paint.



The challenges

Worker health & safety

- Health risks from respirable crystalline silica
- Exposure to hazardous particles during production and application
- Risk of lung disease from particle inhalations

Regulatory & market demands

- Growing workplace safety regulations
- Need for safer alternatives to silica
- Industry shift away from hazardous materials

Material performance

- Need for effective matting efficiency
- Maintaining high opacity standards
- Ensuring consistent product quality



Benefits

Technical benefits

- High matting efficiency
- Supports opacity and stain resistance
- High whiteness, low yellowness

Sustainability benefits

- Harmless to health (non-silica based)
- Enables classification of end products as non-harmful
- Renewable energy used for production

Operational benefits

- High-quality consistency
- Supply reliability / sourcing advantage
- Easier and safer use in production
- Outstanding bulk flow for easy handling
- Low abrasion less wear

Flexshuttle Speed to market



The first fully automated formulation laboratory in the mineral industry, pioneering AI-driven projects and opening new frontiers in formulation capabilities.



The challenge of keeping up with rapidly changing regulations

Paint producers are subject to regulations which change regularly and quickly.

Reformulating paints to remain compliant is an ongoing challenge, especially for customers with less access to laboratory resources for innovations. The Flexshuttle offers them faster evaluation, creative solutions, and efficient processes.



Planetary mixer



Vessel storage



Drawdown

Benefits

- Reduces time to market significantly
- Accelerates innovation
- Promote digitalization
- Offers faster and broader service for our customers

With Omya highly automatized High Throughput Experimentation (HTE or Flexshuttle) you can anticipate regulations and reformulate more efficiently with faster go to market access

Up to 50 samples per day / 17 modules

5 performance tests

- pH / Rheology
- Hiding power / CIE L*a*b*
- Gloss 20°, 60° and 85°
- Haze on paint films at 20°
- Wet scrub resistance



Your toolkit assets

Product portfolio



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Your sustainable notes

Your sustainable notes

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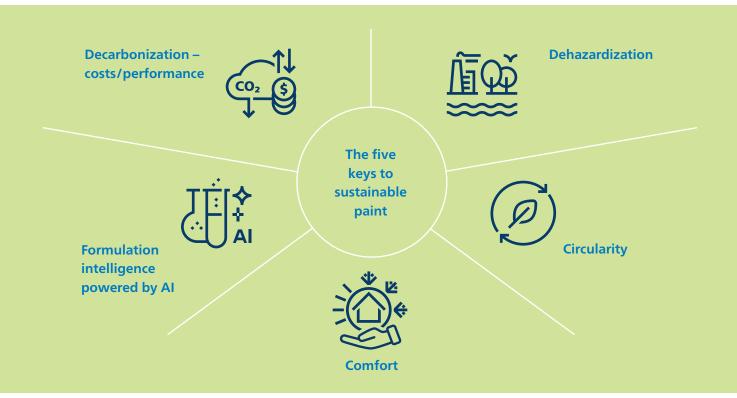
The 5 keys to Omya Sustainability Toolkit

Omya's Sustainability Toolkit offers formulation solutions for futureoriented sustainable paints and coatings.

All our product offerings reflect our worldwide expertise and are designed to help you stay ahead of regulations.

Omya supports your sustainability goals not only through cost and carbon footprint reduction, but also through circularity, dehazardization, health and safety, and formulation intelligence.

Let our worldwide technical experts support you in selecting, formulating and implementing sustainable paint solutions. Through our network of laboratories and dedicated regional hubs, we provide comprehensive support from initial analysis to final implementation.



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