



COATINGS &
INKS



TRUST THE CONTRAST

Application
and Product
Information

euroMinerals has developed a performing composite product called **inbond** based on TiO_2 and other minerals, with surface characteristics similar to classical TiO_2 . No change in optical properties of the paint while amount of TiO_2 decreases. Let's **play your Joker** and use **inbond** in your formulation for **TiO_2 extension**.

inbond

Combining special characteristics and obtaining new properties

Introduction

Titanium dioxide (TiO_2) is an essential raw material and has a big influence on the coating and its properties. Its high price and price fluctuations forces manufacturers to optimize formulations and minimize costs. Thus, the idea of "inbond" was born.

Product characteristics

inbond is a composite product, co-milled in a multistage, self-engineered production process.

The components are talc and TiO_2 . In respect to our **three-component inbond** version, PCC (precipitated calcium carbonate) is incorporated too, which contributes with its hydrophilic character to an excellent dispersion of **inbond**. Talc particles are covered with TiO_2 , which makes the surface characteristics similar to classical TiO_2 .

This makes **inbond** to your JOKER in your paint formulation.

 euroMinerals



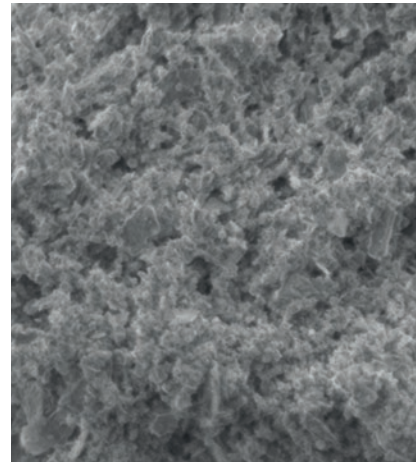
RULES OF THE GAME

Product Portfolio		Whiteness [Y]	Master Sizer MS 2000 d ₅₀ [µm]	Oil Absorption [ml]	TiO ₂ pigment type
inbond	inbond TIS 325	94	2,5	43	Sulphate
inbond	inbond TIC 325	95	2,6	43	Chloride

The target is to exchange TiO₂ by **inbond** in order to save costs but at the same time to reach similar results in terms of rheology, stability, opacity and gloss. Depending on the type of formulation, up to 30% of the TiO₂ can be replaced.

inbond is primarily applied in water based paints (matt and semi-gloss systems), especially preferred in matt paint formulations. **Quantity of TiO₂ replaceable by inbond:**

Semi-gloss systems (PVC <=50)	5% - 15%
Matt systems (PVC >60)	10% - 30%
Primers/plasters	max. 50%



330x

REM **inbond** TIS 325

inbond Conclusion

When applying **inbond** in the optimal degree of replacement, the following summary can be drawn:

- Use **inbond** not like a filler, but as a 1:1 – TiO₂ replacing extender material
- To be used in interior and exterior coatings
- **No change in optical properties – keeping hiding power, gloss and rheology on the same level**
- Advantages of color strengthening effect – means savings in pigment paste
- Best cost-performance ratio
- Lower oil absorption number compared to other TiO₂ extenders
- Weathering and UV-stability
- Lamellar particle structure of talc
- Less settling effect
- Very well balanced hydrophilic / hydrophobic character with excellent dispersing properties, due to the perfect combination of PCC and talc particles
- **inbond - your Joker in your paint formulation!**



LABORATORY STUDY

Formulation:

Class II standard matt paint

Recipe name	Starting recipe	Example
Characteristic	6,6% TiO ₂	4,6% TiO ₂ -2%-pigmented extender material
Components	0% TiO ₂ replacement	30% TiO ₂ replacement (1:1)
Water	30,70	30,70
Thickener	0,45	0,45
Dispersing agent 1	0,20	0,20
Dispersing agent 2	0,35	0,35
TiO ₂ sulphate	6,60	4,60
Pigmented extender product	0,00	2,00
Chalk 2µm	8,30	8,30
GCC 2µm	26,60	26,60
GCC 10µm	8,30	8,30
GCC 25µm	8,30	8,30
Binder	10,00	10,00
Sum of amounts [g] or [%]	100,00	100,00
% solids content	~64	~64
PVC	82	82

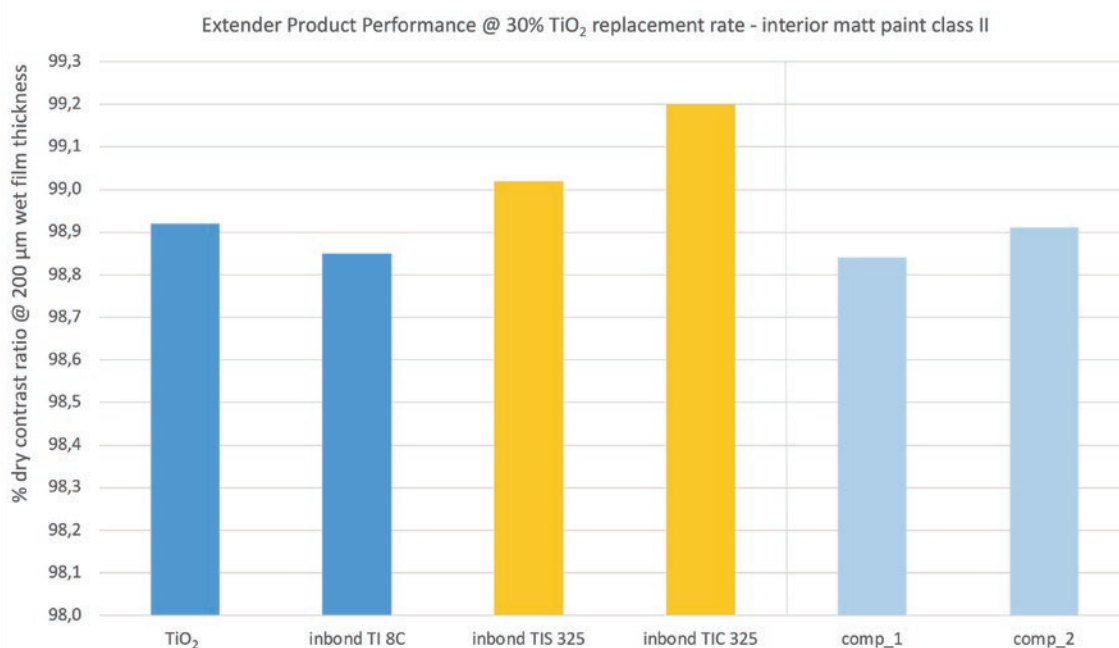
Parameters to be checked:

- Hiding power (dry & wet)
- Whiteness
- Wet scrub resistance

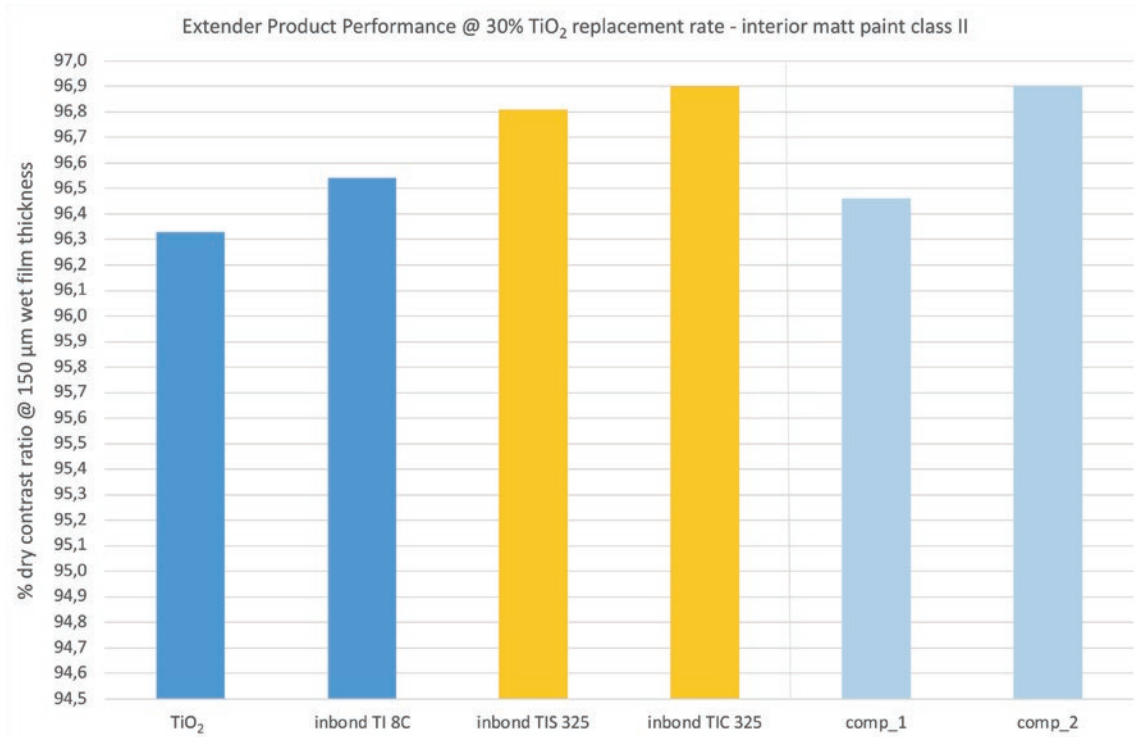
Results:

@ 6,6% TiO₂ starting recipe, replacing 2% pigment (30% substitution), 1:1 with pigmented extender materials

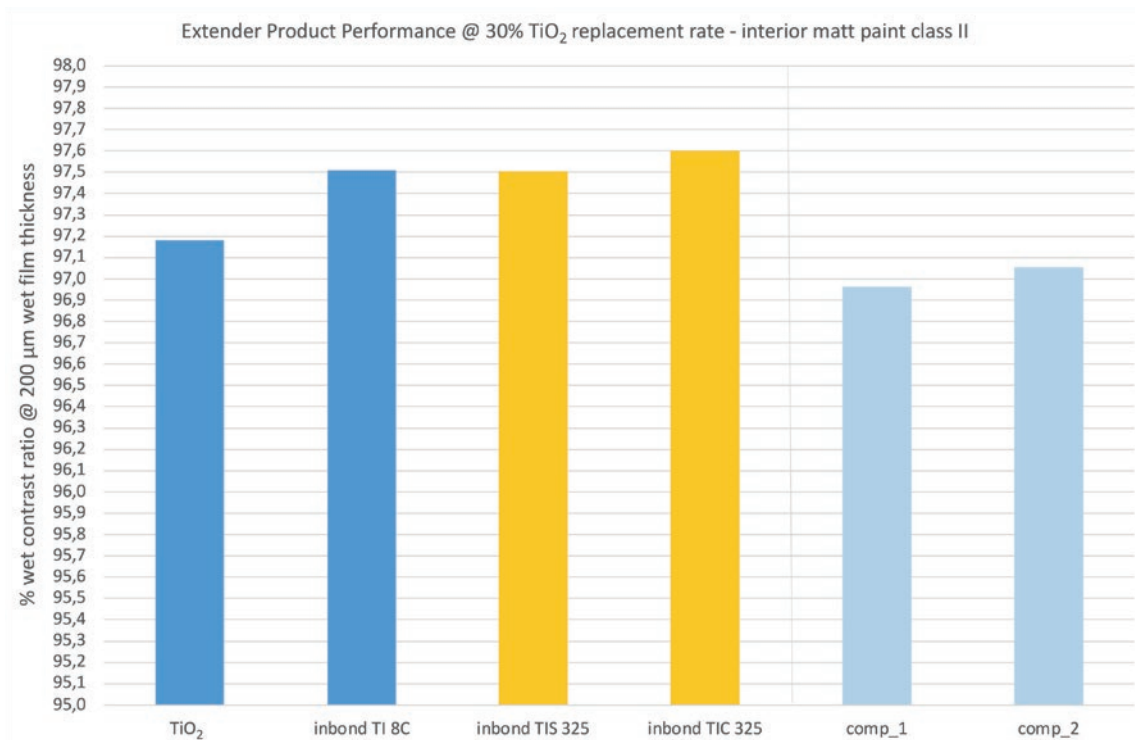
Dry contrast ratio @ 200µm



Dry contrast ratio @ 150µm

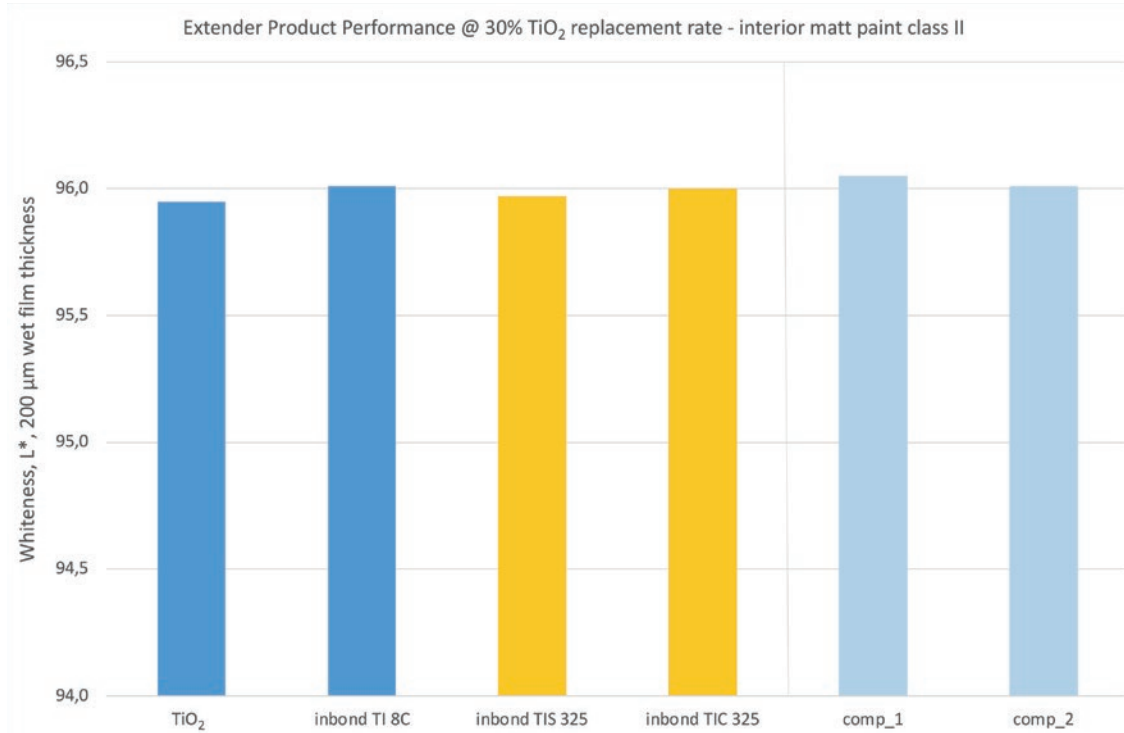


Wet contrast ratio @ 200µm

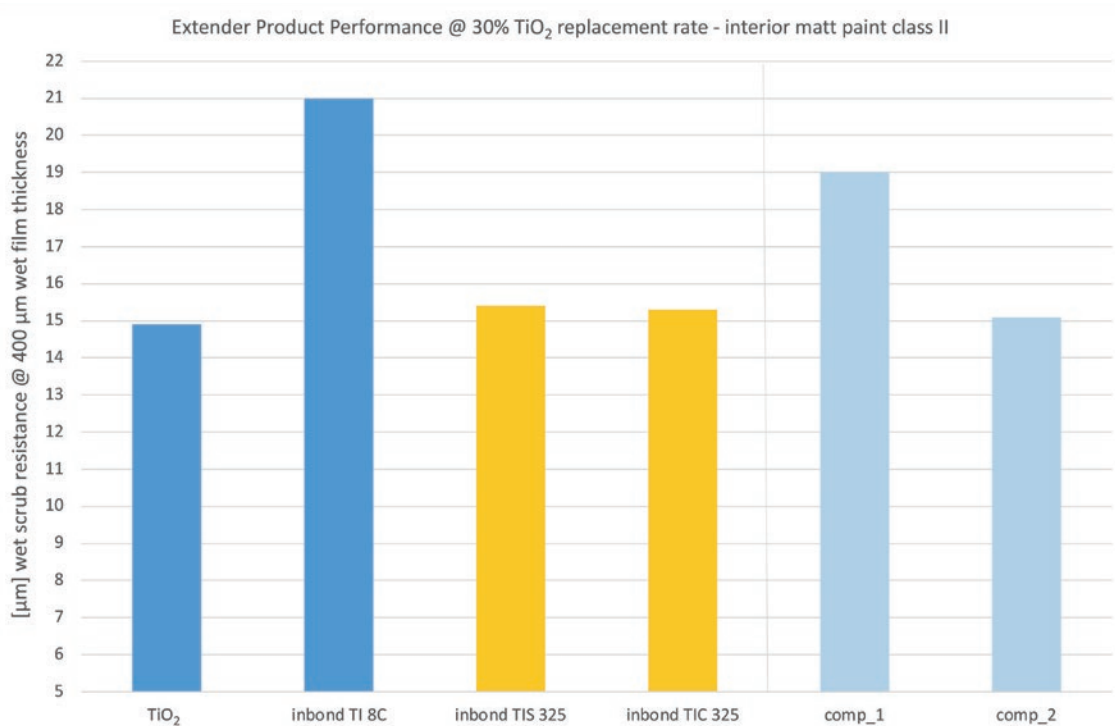




Whiteness L*



Wet scrub resistance (400 µm wet)





SUSTAINABILITY APPROACH

Among the whole value chain, it is euroMinerals philosophy to care and be accountable for

- the resources we use and the effect of our decision and actions on the environment,
- the people we work with by ensuring fair, health and safe labor conditions,
- the sophisticated and innovative production processes we use to offer a product portfolio at highest quality standards,
- the fair and transparent business practices we have in place,

while performing efficient and achieving economic growth.

We can just generate as much as sustainable value and success out of our business, as much as environmental and social responsibility we aim.

Generating success collectively and sustainable is the future, euroMinerals approach. Our management systems are certified and comply with **quality, environmental and occupational standards**.

ONE BRAND – THREE ASSOCIATED COMPANIES – EUROPEAN RAW MATERIAL SOURCES – HIGH QUALITY PRODUCTS

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