



ABOUT NEOS

We are looking to help our clients in three ways:

- Promoting advanced chemical additives
- Providing consulting and R&D services
- Developing an innovative software to model and optimize ceramic body compositions: Neos Aware.

We started our activity in 2004, investigating new ceramic products, which have given as a result the licenses of various patents at worldwide level.

We have been awarded several ALFA DE ORO by our innovative projects:

- Alfa de Oro 2008 new composition of porcelanic gres, ECOKER, together with Bestile, and Azuliber. This innovative formulation allows: to improve the productivity, competitiveness and business profitability, to raise the energetic efficiency and to reduce the CO2 emissions.
- Alfa de Oro 2009, we develop in a joint project with Revigres, a porcelain tile with ½ thicknesses and weight of conventional material, because we think that it is more ecological to build light than heavy.
- Alfa de Oro 2015 to the joint project of Azuliber, Bestile and Neos, a patented sintered foam to decorate the ceiling and help create stylish spaces: Ceilook.
- Alfa de Oro 2017, Neos aware, the modeling software platform for ceramic body management. No more trial and error! this technology evaluates millions of formulas to achieve maximum cost reduction and improve the quality of your ceramic body

Our technology has allowed clients to increase their productivity, improve problem solving, reduce expenses, decrease energetic cost and emission of CO2, and acquire knowledge at faster rates.



ADDITIVES CATALOGUE

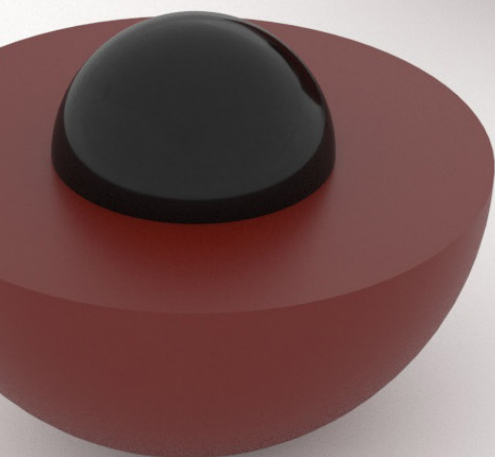
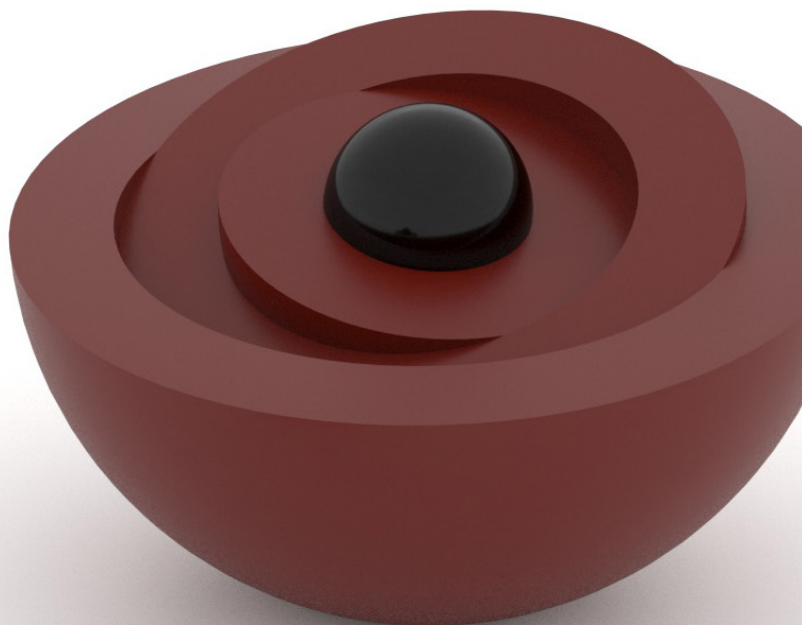
Neos Ceramics group offers a wide range of products for solving the most common problems of the ceramic body compositions. We are specialists in developing custom additives so, if you can't find a right solution in our catalogue, our research team will work with you to develop the required solution to meet your needs.

For Neos, sustainability is an important value, that is why we continuously develop our additives and ceramic compositions with a low environmental impact, to reduce energy consumption and the emission of carbon dioxide into the atmosphere.

BLACK CORE

How we can help you by eliminating the Black Core:

- Improves the surface finish of the tile.
- Higher firing speed.
- Improves the aesthetics on the side of the piece (removal of the change of tone), in high thickness parts (2-3 cm).



BLACK CORE

This defect is due to the presence of an excess of organic material in the ceramic piece. By subjecting the formed piece to high temperatures in short time cycles, a dark spot occurs in the central area. This defect is accentuated by the presence of chromophores such as iron.

NEOS 2001S

Aggregation state: Solid
 Nature: Inorganic
 Function: Remove black core
 Rheology: Not modify rheology of the slip
 Recommended amount: 0.4% of solid additive
 Application: Red and white body composition
 Dosage: Milling process
 *Without sulphates

NEOS 2002S

Aggregation state: Solid
 Nature: Inorganic
 Function: Remove black core
 Rheology: Not modify rheology of the slip
 Recommended amount: 0.3% - 0.5% of solid additive
 Application: Red and white body composition
 Dosage: Milling process
 *Low contain of sulphates

NEOS 2003L

Aggregation state: Liquid
 Nature: Inorganic
 Function: Remove black core
 Rheology: Not modify rheology of the slip
 Recommended amount: 0.3% - 0.5% of additive
 Application: Red and white body composition
 Dosage: Milling process
 *Without sulphates

MECHANICAL STRENGTH

How we can help you by increasing mechanical strength:

- Decreased line breaks.
- Increased apparent density of the formed part, in low plastic supports.
- Decreased thickness of parts, with the consequent decrease in consumption of raw materials, energy and transport of finished product

NEOS 53S

Aggregation state: Solid
 Nature: Inorganic
 Function: Increases dry mechanical strength
 Rheology: Not modify rheology of the slip
 Recommended amount: 0.5% - 1.5% of solid additive
 Application: Porcelain compositions
 Dosage: Milling process
 *Reduce firing temperature

NEOS 600L

Aggregation state: Liquid
 Nature: Organic
 Function: Increases dry mechanical strength
 Recommended amount: 0.2% - 0.8% of additive
 Rheology: Not modify rheology of the slip
 Application: Porcelain compositions
 Dosage: Milling process
 *Low contain of sulphates

NEOS 2011L

Aggregation state: Liquid
 Nature: Hybrid (organic - inorganic)
 Function: Increases dry mechanical strength
 Recommended amount: 0.2% - 0.4% of additive
 Rheology: Not modify rheology of the slip
 Application: Porcelain compositions
 Dosage: Milling process
 *without sulphates

NEOS 2012L

Aggregation state: Liquid
 Nature: Hybrid (organic - inorganic)
 Function: Increases green mechanical strength
 Recommended amount: 0.2% - 0.4% of additive
 Rheology: Not modify rheology of the slip
 Application: Porcelain compositions
 Dosage: Milling process

MECHANICAL STRENGTH

The use of raw materials or low plastic clays, low thicknesses of parts or the need to obtain supports of high whiteness, has an impact on a decrease in mechanical resistance in green or dry, which results in breakage of tile during the process of decoration and feeding of the kiln.

MECHANICAL STRENGTH



MECHANICAL STRENGTH

NEOS 2007S/L

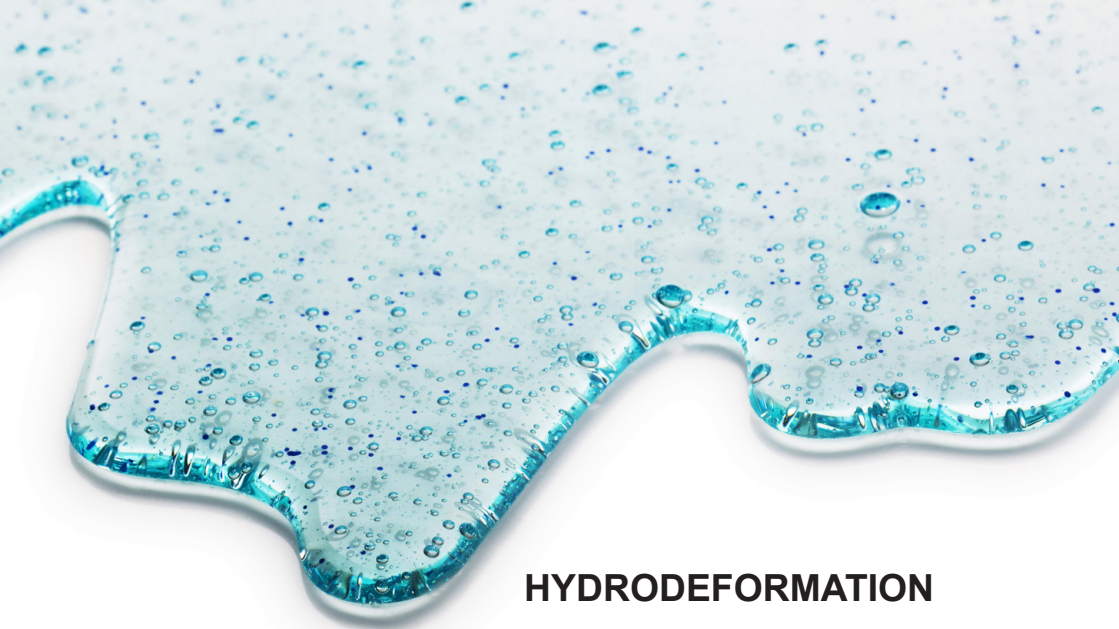
Aggregation state: Solid or Liquid
Nature: Hybrid (organic - inorganic)
Function: Increases dry mechanical strength
Rheology: Not modify rheology of the slip
Recommended amount: 0.2% - 0.5% of solid additive or 0.4% - 1% of liquid additive
Application: White body and porcelain compositions
Dosage: Milling process

NEOS 2009S

Aggregation state: Solid
Nature: Hybrid (organic - inorganic)
Function: Increases dry mechanical strength
Recommended amount: 0.2% - 0.5% of solid additive
Application: Porcelain and red body compositions
Dosage: Spray dryer feeder tanks
*Dry milling

NEOS 100S/L

Aggregation state: Solid or Liquid
Nature: Hybrid (organic - inorganic)
Function: Increases dry mechanical strength
Recommended amount: 0.5% - 1.5% of solid additive or 1% - 3% of liquid additive
Rheology: Not modify rheology of the slip
Application: Low clay contain compositions
Dosage: Milling process
*Increases apparent density



HYDRODEFORMATION

Glazing water causes deformation during its diffusion inside tile body. This curvature has a convex effect on the glaze and concave line in the pre-firing storage park. This defect is amplified on supports with low thicknesses.



WETTING AGENTS

In extrusion processes, the barbotine is dried on the walls of the tanks, causing a defect in the extruder. This defect is increased in areas or periods of high ambient temperatures.

HYDRODEFORMATION

How we can help you reduce or eliminate hydrodeformation:

- Decreased curvature in the line, avoiding breakages in rotaries or stops in injection machines.
- Eliminating the curvature in the box or maxicompressor, facilitating its discharge and eliminating cracks in the sides of the pieces.
- Increased time spent in the box after the appearance of the defect, making production more flexible.

NEOS 2005L

Aggregation State: Liquid

Nature: Organic

Function: Reduce the curvature degree of the ceramic bodies before the application of a glaze or engobe

Recommended amount: Amounts of additive must be calculated depending on the measure of the ceramic body composition, (0.75 g active principle for 25x40 cm dimensions)

Application: All ceramic body composition

Dosage: Dispersion over the surface of the ceramic tiles with the water of humectation

NEOS 2006L

Aggregation State: Liquid

Nature: Organic

Function: Reduce the curvature degree of the ceramic bodies after the application of a glaze or engobe

Recommended amount: Amounts of additive must be calculated depending on the measure of the ceramic body composition, (17 mg active principle for 33x33 cm dimensions)

Application: All ceramic body composition

Dosage: Dispersion over the surface of the ceramic tiles with the water of humectation

WETTING AGENTS

How we can help you improve barbotine wetting:

- It allows longer working times with the slurry, making production more flexible.
- Decreased defects due to excessively dry material.

NEOS 2008L

Aggregation state: Liquid

Nature: Hybrid (organic - inorganic)

Function: Prevents early drying of the slip during your residence time in the tanks

Recommended amount: 0.8% - 1% of solid additive

Rheology: Not modify rheology of the slip

Application: Extruded

Dosage: Milling process

DISPERSING AGENT

The use of silicates, phosphates, polyacrylates or phosphonates for the reduction of the viscosity of the slip, is very common in the ceramic industry. However, there are situations where special products are required to obtain adequate working densities or viscosities in the slip.

DISPERSING AGENT

How we can help you by improving the viscosity of the slurry:

- It allows to work at higher densities or lower viscosities, increasing production and saving energy costs.
- It enables to work with recycling water, avoiding the emission of polluting effluents to the environment.
- Improve the environmental image of the company.

DEF 70

Aggregation state: Liquid
Nature: Inorganic
Function: Reduce the viscosity
Recommended amount: 1% - 3% of solid additive
Rheology: Not modify rheology of the slip
Application: Glaze
Dosage: Milling process

FLUX

How we can help you by improving the fusibility of the composition:

- Increasing productivity, reducing the company's fixed costs and energy costs.
- Increased profitability of the company, having more product for sale with the current facilities.
- Helping your company with studies to improve the quality of the compositions made by Neos Aware (Alfa de Oro 2017).

NEOS 2010S

Aggregation state: Solid
Nature: Inorganic
Function: Reduce firing time and temperature
Recommended amount: 1% - 3% of solid additive
Rheology: Not modify rheology of the slip
Application: Low clay contain compositions
Dosage: Milling process

FLUX

There are places where there is a low availability of flux products or have materials that lower the firing temperature, but have high working difficulties, such as an increase in the deformation of the piece during firing or the introduction of an unwanted coloration into the body tile.

SPECIAL ADDITIVES FOR THICK PORCELAIN TILES

Increasing the thicknesses up to 2-3 cm, there is a risk of black core appearance inside the body tile, which decreases the aesthetic quality of the piece. Likewise, the substantial increase in thickness, raises the firing times of the ceramic pieces.



SPECIAL ADDITIVES FOR THICK PORCELAIN TILES

How we can help you with thick tiles:

- Removal of the black core in the central area of the pieces.
- Productivity improvement due to increased melting point of the ceramic support by the introduction of the additive.
- Ease of use, by coating the atomized powder, it avoids the development and manufacture of compositions to supports with high efficiency.

NEOS 2013S

Aggregation state: Solid

Nature: Hybrid (organic - inorganic)

Function: Reduce firing time of thick tiles, without appearing black core

Recommended amount: 0.2% - 0.8% of solid additive

Application: Porcelain compositions

Dosage: Mixed with dry atomized powder

CUSTOMIZED ADDITIVES



CUSTOMIZED ADDITIVES

We are a research company with a highly trained and experienced team.

We have ceramic and organic laboratories with the latest technology to attend any demands requested by our customers.

Our software, NeosAware, artificial intelligence technology, enables us to increase the quality of your ceramic body compositions by evaluating millions of formulas to achieve the required feature at the minimal cost.



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