



Resicel E/50 N

Chemical Description

Acrylic copolymer in aqueous emulsion.

Main Use

Binder and anti-cracks agent for ceramic slip.

Typical Values

Appearance: Milky liquid

Dry content : 45 ÷ 47

pH @ 25 °C: 8 - 10

Brookfield viscosity RVT @ 25 °C 50 rpm : max 200 cPs

Product Properties

RESICEL E/50 N is a binder and anti-cracks agent used in different ceramic applications and shaping processes.

It is based on an acrylic copolymer having a medium Tg (Glass Transition Temperature) (+ 4 °C) able to increase the mechanical strength and gives a certain "elasticity" to the body.

RESICEL E/50 N is a low viscosity and easily dispersible liquid which does not require a previous dissolution in water.

If viscosity and/or thixotropy of the slip become too high, adding a slight amount of deflocculant (we suggest polyacrilates - i.e. Reotan) is usually sufficient to come back to suitable rheological parameters.

Applications

Tableware-Technical ceramics

RESICEL E/50 N is a binder suitable for spray dried bodies in pressing process and also for bodies shaped by other kind of process.

It fits for bodies having very different plasticity features. The application range of RESICEL E/50 N includes all the cases in which more cohesion is required facilitating the compactness after the pressing process. Dosages: from 0.3% up to 2 % computed on the solid content of the slip.

Average performances:

	Dosage %	Δ Modulus %
RESICEL E 50 N	0.5 ÷ 2	+10 ÷ +20 green +20 ÷ +30 dry

Sanitaryware

RESICEL E/50 N reduces the number of cracks during consolidation and drying of ceramics shaped by slip casting.

Slip casting defects, like breaking and cracking, occur when the deformation strengths, due to uneven shrinkage or to a mechanical shock, overwhelms the mechanical resistance of the ceramic piece.

The deformation strengths are stronger in the first part of drying, when shrinkage is higher.

These considerations lead Lamberti to develop this additive, for slip casting bodies, able to increase the mechanical strength and gives a certain "elasticity" to the cast body, in order to delay cracks formation as much as possible. By this way it is possible to reduce cracks number, as after a certain time the deformation strengths linked to shrinkage become weaker, and they are not able anymore to overwhelm the mechanical resistance of the cast piece.

Industrial comparative tests run using Resicel E/50 N at low dosage (0.05 -0.12 %) have shown that RESICEL E/50 N doesn't eliminate completely cracks, but it gives an evident and sensible reductions of culls due to cracks at low cost.

Advantages are usually more evident in the production of large and complicated-shaped items.

RESICEL E/50 N is easily dispersible and it is usually added in slow stirring storage tanks. It is also possible to add RESICEL E/50 N in the tanks serving directly the various casting benches or pressure casting machines (heated tanks).

As any additive added to a slip RESICEL E/50 N might modify rheology and casting rate; changes of these two factors must be taken into consideration.

Storage and Handling

RESICEL E/50 N has a shelf life of 12 months.

In order to maintain the performance of the product, store at room temperature and protect from frost.

Packaging

50 or 125 kg polyethylene drums and 1.000 kg tanks

Material Safety

Consult the Safety Data Sheet

ceramics.lamberti.com

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