



# Resicel 4399

## Chemical Description

Aqueous solution of anionic polyacrylamide

## Main Use

Liquid binder for glazes, screen printing pastes and low plasticity bodies.

## Typical Values

**Appearance:** clear slightly opalescent liquid

**Brookfield viscosity RVT 20 rpm @ 25°C:** 500 - 1100 cP

**pH:** 5 - 7

**Dry content:** 24 - 26 %

## Product Properties

RESICEL 4399 is an extremely versatile synthetic binder. It is widely used in ceramic production:

- tile glazing by disk and bell
- screen printing
- spray application of shades of coloured glaze
- glazing of pottery by immersion
- pressing of low plasticity bodies

RESICEL 4399 is dosed after unloading from the mill or also directly in the line tanks, because, thanks to its low viscosity, it is quickly and easily dispersible.

## Applications

### Tile glazing

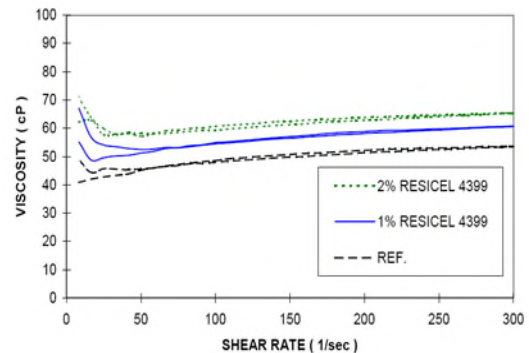
Nowadays aesthetic improvement both for floor and wall tiles requires more and more applications on crude glaze. Some of these applications require an even and resistant surface. A dust releasing glaze gives problems in screen printing, increasing the needs to clear the screens, with a noticeable reduction of colour shade reproducibility. Some rolling machines require surfaces with no dust, otherwise it will be released in the ink, with a progressive increase of the colour density. In this case it is not possible to use the normal fixative, which can cause some inconvenience to this kind of machine. RESICEL 4399 is the right solution for these applications, acting as an efficient "inner" fixative.

RESICEL 4399 glaze does not affect the glaze rheology and does not dramatically change the drying times.

[ceramics.lamberti.com](http://ceramics.lamberti.com)

For instance, in a glaze for disk application, we have found after the addition of 2% of RESICEL 4399, an increase of the Ford cup value from 17 to 18 seconds, while the rheological behaviour was unaltered, as shown in the following graph (viscosity vs. stirring rate):

Action of Resicel 4399 on disk glaze



The best results have been obtained on disk application which often present the dust problem; RESICEL 4399 is also suitable and recommended for bell application.

The dosages range from 1% to 6%, typically from 1% to 2%.

### Spray shades

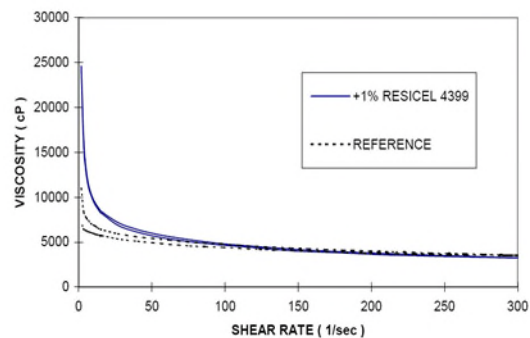
When screen printing is applied after spray shades application, partial taking off of the shades may occur. The addition of RESICEL 4399 in the sprayed glaze can solve this problem.

The dosages range from 0.5% to 3%.

### Table-ware glazes

The addition of RESICEL 4399 in the glazes for dipping glazing of table-ware gives, after drying, more consistent and more resistance surfaces in every successive handling of the pieces. RESICEL 4399 does not affect the glaze texture.

The dosages range from 0.5% to 4%.



This information and our technical recommendations, if any, both verbal and in writing, are given to the best of our knowledge, without any express or implied warranty, e.g., regarding their fitness for a specific purpose. The user is solely responsible for assessing and ensuring compliance with all legal regulations including intellectual property laws and necessary certifications and authorizations with respect to the use, combination and processing of our products. Our technical recommendations do not release the user from the obligation to check its validity and to test our products as to their suitability and fitness for the intended processes and uses. The application, use and processing of both our products and the products manufactured by the user (on the basis of our technical recommendations, if any) are beyond our control and, therefore, the user is the sole responsible for them. Detailed information and instructions on handling the products and cautions to be observed in the use of them are available in our relevant Safety Data Sheet.



**Lamberti**  
ceramics

RESICEL 4399 produces a binding effect on all low plasticity bodies, and in special way to technical ceramics, glass, ferrites, and other products formed by isostatic pressing. RESICEL 4399 improves mainly the mechanical strength in green.  
The dosages range from 1% to 4%.

### Storage and Handling

Resicel 4399 is stable to prolonged storage under condition where extreme moisture does not occur. In order to maintain the performance of the product, store at room temperature and protect from frost.

The shelf life is at least twelve months if this condition is observed.

### Packaging

1050 kg tanks and 115 kg plastic drums

### Material Safety

Consult the Safety Data Sheet

[ceramics.lamberti.com](http://ceramics.lamberti.com)

This information and our technical recommendations, if any, both verbal and in writing, are given to the best of our knowledge, without any express or implied warranty, e.g., regarding their fitness for a specific purpose. Each user of our products is the sole responsible for assessing and ensuring compliance with all legal regulations including intellectual property laws and necessary certifications and authorizations with respect to the use, combination and processing of our products. Our technical recommendations do not release the user from the obligation to check its validity and to test our products as to their suitability and fitness for the intended processes and uses. The application, use and processing of both our products and the products manufactured by the user (on the basis of our technical recommendations, if any) are beyond our control and, therefore, the user is the sole responsible for them. Detailed information and instructions on handling the products and cautions to be observed in the use of them are available in our relevant Safety Data Sheet.