Introduction

3M™ Easy Clean Coating ECC-3000 is a clear, colorless treatment for glass shower panels, used to provide “Easy to Clean” surfaces. This fluoropolymer will react with the surface to create a low surface energy coating that is not easily wetted out with liquids. The treatment is stable and cannot be removed except by harsh cleaners or reagents, such as a very strong base.

This product is typically applied from a very diluted solution containing about 0.8% by weight of product, resulting in a coating thickness of 20 to 100 nm. ECC-3000 coating can be applied by spray application or dip coating. The treatment provides a hydrophobic surface that allows simple rinsing away of soils and sludge from the surface, with no residual surface staining. The treated surface is durable, highly repellent to oils and water and does no change surface appearance.

Application

ECC-3000 coating can be applied to glass surfaces to provide low energy coatings.

The treated substrate will have:

1. Surface protection
   ECC-3000 coating can be used for indoor glass applications, such as shower panels and mirrors.

2. Oil- and water-repellency
   ECC-3000 coating can be used to obtain repellency against any liquid having a surface tension greater than about 15 dynes/cm. This includes water, oils, ketones, gasoline and aromatic and aliphatic hydrocarbons.

3. Easy-to-clean properties
   ECC-3000 coating is a built-in, manufacturer applied treatment that provides an easy to clean surface, resulting in consumer advantages such as:
   - preventing stains
   - easy to remove hard water deposits
   - no need for aggressive cleaners
   Note: “Easy to Clean” does not mean the surface is self-cleaning.

4. Enhanced lubricity
   Soils and liquids tend to “slide off” surfaces treated with ECC-3000 coating, helping to prevent build-up and extend the time between cleanings.

5. Adhesion promotion
   In the production of glass fibre-reinforced PTFE, ECC-3000 coating can serve as an adhesion promoter. Being chemically bound to the glass fibre on one side and, through its perfluorinated tail, being compatible with the PTFE polymer on the other side, improved adhesion of the PTFE polymer onto the glass fibre is achieved.
**Important Notice to Purchaser:**

The information in this publication is based on tests that we believe are reliable. Your results may vary due to differences in test types and conditions. You must evaluate and determine whether the product is suitable for your intended application. Since conditions of product use are outside of our control and vary widely, the following is made in lieu of all express or implied warranties (including the warranties of merchantability or fitness for a particular purpose): Except where prohibited by law, 3M’s only obligation and your only remedy, is replacement or, at 3M's option, refund of the original purchase price of product that is shown to have been defective when you received it.

In no case will 3M be liable for any direct, indirect, special, incidental, or consequential damages (including, without limitation, lost profits, goodwill, and business opportunity) based on breach of warranty, condition or contract, negligence, strict tort, or any other legal or equitable theory.

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**3M™ Easy Clean Coating ECC-3000**

Typical Physical Properties

Not for specification purposes

All values determined at 25°C and 1 atmosphere unless otherwise specified

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ECC-3000 coating can be described as a fluoropolymer solution.

### Properties | ECC-3000 Coating
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Appearance | Colorless to slightly yellow liquid
Specific gravity | 0.92 kg/l
Flash point | 12°C (54°F)
Type | non-ionic
Composition | 10% fluoropolymer, 60% alkoxy silane, ethanol

ECC-3000 coating can be diluted with alcohols, ketones, acetates or other solvents to give slightly hazy mixtures. ECC-3000 coating can be diluted with hydrofluoroethers (HFE) to give clear solutions. Instructions for proper product application can be found in the Application Guidelines.

### Typical Performance on Glass | ECC-3000 Coating
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Initial contact angles*(water/hexadecane) | 100°-120° / 60°-70°
Tilt angle (water) | 15°-20°
Contact angles after abrasion | 2000 cycles with brush/water 100°-110°/50°-60° 4000 cycles with brush/water 90°-100°/50°-60°
Tilt angle | 2000 cycles 15°-20° 4000 cycles 20°
Contact angles after exposure | 24 hrs 18% HCl at 20°C 90°-100°/50°-60° Boiling water test 1 hour at 90°C 100°-110°/50°-60°

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**Storage and Shelf Life**

It is recommended that ECC-3000 coating be stored in a closed bottle, away from direct sunlight, in a cool, dry place (temperatures between 10-25°C/50°-77°F). Avoid contact with moisture. Shelf life is 1 year from date of manufacturing.

**Product Safety and Handling**

Before using this product, please read the Material Safety Data Sheet (available through your local 3M representative) and the precautionary statement on our product packaging. Follow all applicable directions.

Appropriate care should be taken to avoid skin or eye contact and prolonged breathing of vapors. Hands should be washed before eating. Smoking should be avoided.

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