



Easy Clean Coating ECC-3000

For Glass Substrates

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 not 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.

**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

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

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

**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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