

FIX-ELECTRIC

A conductive additive for mixing with joint mortars or cement-based adhesives for laying and grouting conductive ceramics.



FIELDS OF APPLICATION

FIX-ELECTRIC can be mixed with mortars, cement-based adhesives and dispersion adhesives in order to be applied in the following situations:

- ◆ Gluing and grouting conductive ceramic indoors on mortar supports, **RECRECEM PRE-MIX, PAVIFORT, FIX-REVOCO, FIX-NIVEL**, etc.
- ◆ Industries where flammable or **explosive materials** are handled: petrol stations, refineries, warehouses, etc.
- ◆ Industries where **electronic components** are manufactured: printed circuits, electronic cards, televisions, computers, etc.
- ◆ **Laboratories** where precision electronic instruments are used and where electrostatic charges, even static charges, can be harmful.
- ◆ **Operating rooms**, recovery rooms with electronic treatments, ICU rooms, etc.
- ◆ **Machine rooms** where sparks may occur on switches, electronic motors, etc.
- ◆ Warehouses for **chemical products**.
- ◆ **Office space**.
- ◆ **In commercial areas** that are damp or not well-ventilated.

- ◆ **Telephone exchanges**, radar stations, repeater stations, etc.
- ◆ Warehouses for **explosives** or with the presence of self-igniting powder, etc.

TECHNICAL CHARACTERISTICS

FIX-ELECTRIC is a black, pasty liquid that is pre-dosed and solvent-free to be mixed with cement mortars or dispersion adhesives. It is formed by thousands of conductive nanoparticles that conduct electrostatic charges to the earth connection. In industries where flammable substances are handled, it is essential to prevent sparks that cause explosions.

On the other hand, the human body also becomes electrically charged due to friction with clothing, especially when rubber-soled shoes are worn. The accumulation of electrical charges has a very low intensity of thousandths of an ampere (mA), yet the voltage can be very high. In fact, when the voltage reaches 2500 volts, the sudden discharge caused by coming into contact with some element connected to earth causes a spark on the skin, which in some cases causes intense pain.

WARNING

FIX-ELECTRIC should not be used:

- ◆ For uses other than those described here.
- ◆ Without using the double gluing technique when laying ceramic.
- ◆ Modifying the recommended mixture proportions. (the resulting product could turn out to not be conductive)

Therefore, the use of conductive, cement-based adhesives and conductive ceramics is essential in some cases for safety reasons, and it is highly recommended in others where we seek quality and peace-of-mind in our daily activities.

FIX-ELECTRIC succeeds in complying with international resistance standards. For the first year, a maximum of $16^6\Omega$ is established ($1\text{ M}\Omega$), and it must not exceed $10^8\Omega$ ($100\text{ M}\Omega$) in subsequent years. This resistance is the value that goes from the floor surface to the equipotential bonding connection. To achieve this value, the cement + **FIX-ELECTRIC** mixture must inevitably provide a resistance that is far below that value.

The product is characterised by:

- ◆ Being easily dispersed.
- ◆ Being environmentally friendly.
- ◆ Allowing the ideal transmission of charges to the earth electrode.
- ◆ Allowing an easy, quick and economical conductive installation.
- ◆ It is the most efficient system and requires no maintenance.
- ◆ This system prevents the theft of copper conductors and earth rods.

HOW TO USE

- ◆ **Support:**
It must be clean, resistant, solid and free from powder, waxes, oils, greases, rust, old paint, etc.



◆ **Conductive installation:**

Laying is preceded by the installation of a grid consisting of a copper band of approximately 0.04-0.10 mm thick and a width of approximately 10-40 mm, connected to the equipotential bonding connection of the earth network approximately every 30-40 m². It is essential that a band pass underneath each ceramic piece.

◆ **Preparation of the mixture:**

First dump water in a tub, and then add the **FIX-ELECTRIC**. Mix with a mixer for 1 minute. Then add the cement-based adhesive and mix thoroughly. Add the quantities described in the attached table.

◆ **Application of the mixture:**

Always glue pieces using the double gluing technique: adhesive on the back of the piece and adhesive on the support. Tap on all pieces with a rubber mallet.

◆ **Conductive grout:**

Follow the same procedure as the aforementioned for preparing the mixture, according to the described proportions. **FIXCOLOR** can be used (fine grain or thick), or **EUROCOLOR FLEX**, or **JUNTATEC**.

Apply the mixture using the **FIXESPATULA** (spatula), and pick up any excess using the same spatula. Let dry for 20-40 minutes, and then clean with the **FIXLLANA PARA LIMPIAR** (trowel for cleaning) and a little bit of water.

On rough or non-slip pieces, do prior tests in a corner to see whether or not **FIX-ELECTRIC** stains the pieces.

◆ **Tool cleaning:**

Clean the tools with water before the product hardens.

CONSUMPTION:

PRODUCT:	Quantity	FIX-ELECTRIC	Water
FIXAGRES FLEX:	25 kg	1.5 kg	4.0 l
EUROCOLOR FLEX:	25 kg	1.5 kg	5.3 l
FIXCOLOR 0/4:	25 kg	1.5 kg	5.5 l
JUNTATEC:	25 kg	1.5 kg	4.2 l

TECHNICAL DATA:

DIRECTIVES:	EN 12.004 (with FIXAGRES FLEX)
PRODUCT:	
• Type:	creamy paste easily dispersible in cements and dispersion adhesives for transmitting electrical charges to equipotential bonding connections. Mixed with FIXAGRES FLEX produces a C2 T adhesive
• Density	1.05 g/cm ³
• Viscosity	200 mPa·s (25° C)
• Toxicity	It is not an irritant or harmful. It is water based.
• Flammability	no
APPLICATION:	
• Proportion of the mixture:	follow the table of quantities used
• Colour of the mixture:	black
FINAL QUALITIES:	
• Initial adhesion:	≥ 1,0 N/mm ²
• Adhesion after immersion in water:	≥ 1,0 N/mm ²
• Adhesion after ageing through heat:	≥ 1,0 N/mm ²
• Adhesion after freezing-thawing cycles:	≥ 1,0 N/mm ²
• Pot life: adhesion (20 min):	≥ 0,5 N/mm ²
• Electric transverse resistance (R1):	0,02 MΩ (EN 1081)
• Resistance to ground (R2):	0,06 MΩ (EN 1081)
STORAGE:	
• In covered, dry and ventilated locations:	12 months
PRESENTATION:	
• Supplied in:	black colour in 1.5/kg tubs



It must be mixed with an electric mixer