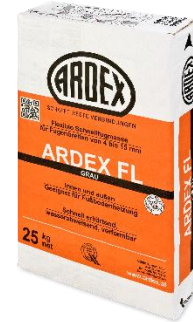





ARDEX FL

Flexible rapid grouting compound

- Cement-based
- For joint widths of 4 – 15 mm
- Deformable
- Hydrophobic
- Quick setting
- Quickly capable to carry load



Overview Sustainable Building

| Building certification systems | | Classification |
|--|---|---|
| DGNB/ÖGNI | ✓ | QL 4 (highest QL) |
| LEED | ✓ | Requirements met |
| Emissions | | |
| According GEV (Gemeinschaft Emissionskontrollierte Verlegewerkstoffe, Klebstoffe und Bauprodukte e.V., Düsseldorf) | | EMICODE® EC 1^{PLUS} very low emission |
| | |  |
| According French VOC Classification | | A+ |
| | |  |
| Gemäß eco-bau | | eco-1 |
| | |  |
| solvent-free | | |
| EPD (Environmental Product Declaration) | | |
| ARDEX FL corresponds to FEICA EPD: | | EPD-FEI-20160042-IBG1-EN |

ARDEX FL

Flexible rapid grouting compound

Technical Assessment

Meets the requirements according to EN 13888

CG 2 WA, Improved cement-based grout mortar with high abrasion resistance and with reduced water absorption



According GISBAU (TRGS 610, Technische Regeln für Gefahrstoffe):

GISCODE ZP1 - cementitious product, low-chromate

Sustainable Building

According ÖGNI (Österreichische Gesellschaft für Nachhaltige Immobilienwirtschaft)

According DGNB (Deutsche Gesellschaft für Nachhaltiges Bauen)

Version 2018

DGNB criteria ENV 1.2: Local environmental impact

ARDEX FL can be classified as primers, primer coatings, putties and adhesives under wall and floor coverings (e.g. tiles, carpets, wooden floors, resilient flooring – except wallpaper).

ARDEX FL has the GISCODE ZP1 and is certified by EMICODE® EC 1^{PLUS} very low emission, based on GEV.

ARDEX FL fulfills the requirements for highest Quality Level 4.

Version 2015

DGNB criteria ENV 1.2: Local environmental impact

ARDEX FL can be classified as primers, primer coatings, putties and adhesives under wall and floor coverings (e.g. tiles, carpets, wooden floors, resilient flooring – except wallpaper).

ARDEX FL is certified by EMICODE® EC 1^{PLUS} very low emission, based on GEV.

ARDEX FL fulfills the requirements for highest Quality Level 4.

ARDEX FL

Flexible rapid grouting compound

Sustainable Building

According LEED (Leadership in Energy and Environmental Design)

Version 4 (2014)

EQ: Low Emitting Materials

ARDEX FL meets the requirements according EMICODE® EC 1^{PLUS} very low emission, based on GEV which are accepted by LEED.

ARDEX FL meets the requirements and contributes to achieving one LEED point under EQ: Low Emitting Materials.

Version 2009

IEQ Credit 4.1: Low Emitting Materials: Adhesives and Sealants

The permitted limit value in the category primers, sealings and undercoatings according SCAQMD Rule 1168 is 65 g/L. The VOC value of ARDEX FL according SCAQMD Rule 1168 is < 65 g/L.

ARDEX FL meets the requirements and contributes to achieving one LEED point under IEQ: Low Emitting Materials.

MR Credit 5.1 und 5.2: Regional Materials

Production site: 58453

Distance Production site – Project site < 800 km

Products that are used regionally within a 500 mile (800 kilometer) can be contributed to achieving one LEED point.

ARDEX FL

Flexible rapid grouting compound

Glossary

EMICODE

The marking system EMICODE® of the Gemeinschaft Emissionskontrollierte Verlegewerkstoffe, Klebstoffe und Bauprodukte e. V. (GEV) assesses the emission behaviour of installation materials and other building products. Products with the EMICODE® EC 1 and EC 1^{PLUS} have particularly low emissions, comply with the strictest thresholds and are subject to permanent and independent control. As a founding member of GEV, we strive to develop solvent-free, low-emission installation materials and building products and to promote these on the market.

Blauer Engel

The "blue angel" (Blauer Engel) is assigned by the Deutsches Institut für Gütesicherung und Kennzeichnung (RAL) to low-emission flooring adhesives and other installation materials according to RAL-UZ 113, the emission behaviour of which is subject to external review. Apart from this, further requirements concerning the contents, data sheets and bindings must be met.

VOC

Volatile organic compounds (VOC) are substances that will pass from the liquid to the gaseous state at room temperature and normal pressure. This particularly includes organic solvents, but also fuels such as diesel oil or petrol. According to the European directive 2010/75/EU ("IED directive"), VOCs are organic compounds with a steam pressure of 0.01 kPa or more (at room temperature $T = 20\text{ °C} = 293.15\text{ K}$).

French VOC classification

The French VOC classification classifies building products that are processed permanently indoors in emission categories A+, A, B or C according to their emissions. A+ means the best and C the worst emission category. Since 2012, France has required marking for these building products.

EPD

The environmental effects of our products are transparently presented based on life cycle assessments in a verified and registered document by the Environmental Product Declaration (EPD).

They form the data basis for economical building assessment across the entire life cycle.

The sample EPD indicated in the sustainability data sheets was developed by the federation of the European adhesives and sealants industry (FEICA) and verified by the independent Institut Bauen und Umwelt (IBU). These sample EPDs that can be used by FEICA members and their member companies were verified by the IBU and published by the FEICA and the Institut Bauen und Umwelt.

The life cycle assessment data and the other contents of the respective sample EPD can be used to assess the sustainability of buildings.

ARDEX FL

Flexible rapid grouting compound

Glossary

Building certification systems

Sustainable building is the concept of the future in the building and real estate industry. The precise requirements behind the term "sustainable building" become measurable and assessable when using building certification systems. Sustainability is determined there based on the individual use of the specific building, rather than the isolated building material. In addition to ecological criteria, "sustainable building" also combines economic and social aspects.

Highly efficient building materials

ARDEX is a pioneer in the area of highly efficient building materials. **Speed** is particularly typical for our building materials. Thanks to technologies like the ARDURAPID effect and SpeedTec, they are ready for installation in record time. This accelerates building progress, reduces costs and protects the environment. Beyond the classical sustainability criteria of building certification systems, our products are characterised by their **longevity** and high **yield**. Using less material also means less handling, transport and packaging waste on the construction site. Not least, ARDEX sets standards concerning durability of its products. All ARDEX building materials are produced in state-of-the-art and energy-efficient production facilities. In our four research centres, we continually develop new environmentally compatible products.

Beyond this, we also meet the requirements of the DIN ISO 14001, the internationally strictest environmental standard. In the scope of certification to DIN ISO 14001, an annual environmental program is compiled and implementation is reviewed by regular audits.

Usage note: This data sheet is based on the current state of the art at the time of issuing and has been compiled based on our knowledge and experience. In spite of diligent processing of the available information, ARDEX Baustoff GmbH cannot take any liability for the information being up to date and accurate. The requirements of the respective building certification systems can be interpreted in different manners and depend on the respective product and usage location. The contents do not found any legal relationship.

Additionally observe the notes in the technical and safety data sheet.

ARDEX Baustoff GmbH

Loosdorf, 31/07/2019

07/2019
MAN