



Debrecen (Hungary) International School of Debrecen

WATERPROOFING ROOFS AND INSTALLING RESILIENT FLOORS
AND CERAMIC TILES IN A TOP-LEVEL EDUCATION FACILITY

Debrecen is Hungary's second biggest city and an important cultural center located in one of the most dynamically developing areas of the country. It hosts the offices of many Hungarian and foreign corporations, as well as a large green space called the "Great Forest" in its northern area.

One important goal of the city management is to set a globally competitive standard in the field of public education. To meet this objective, in 2019 the City Council opened a new facility, the International School of Debrecen (ISD), providing education in English language to children from kindergarten to high school. The building

was built in the immediate surroundings of the Great Forest and symbolizes the aim for sustainable architecture in harmony with nature.

Mapei Kft, the Group's Hungarian subsidiary, supplied products for waterproofing roofs, preparing substrates and installing ceramic tiles and resilient materials.

Polyglass solutions for waterproofing the roofs

The company in charge of roof waterproofing chose to employ products by Polyglass, a subsidiary of the Mapei Group. The numerous details, angular shapes, sides and corners of the semicircular building posed enormous

LEFT. Products by Polyglass (Mapei Group) such as POLYVAP RADONSHIELD P-AL, POLYDREN PP, MAPEPLAN M B_{ROOF} t1 ensured a proper waterproofing of the roofs.

challenges to the staff entrusted to install the waterproofing membranes. However, the skilled team of the waterproofing contractor and the innovative Polyglass products ensured that the works were completed flawlessly. First of all, the concrete roof slabs were treated with POLYPRIMER bituminous primer to promote the adhesion of following layers. POLYVAP RADONSHIELD P-AL bituminous membrane was then applied over the entire surface, to form a vapor barrier over the straight-layer flat roof from below. Thermal insulation panels were then installed on top of this layer, with slopes formed using a second layer of thermal insulation panels. POLYDREN PP polypropylene woven non-woven geotextile was then installed to make sure that the emissions of plasticizers from the PVC products would not damage the thermal insulation panels. MAPEPLAN M B_{ROOF} t1 single ply waterproofing membranes with a white top layer were mechanically fixed onto wooden structural supports.

Installing ceramic tiles in service areas

Prior to the installation of ceramic tiles in the kitchens and service areas, it was necessary to form fast-drying, normal setting screeds with the aid of a special hydraulic binder, TOPCEM. The substrates were then levelled off with ULTRAPLAN ECO 20, a self-levelling compound manufactured and distributed on the Hungarian market by Mapei Kft.

The 30 x 60 cm ceramic tiles were installed thereupon with KERAFLEX EASY S1 deformable cementitious adhesive with extended open time, high wetting capacity and very low emission level of volatile organic compounds (VOC), which is particularly recommended for bonding large-size ceramic tiles over large areas of flooring. Joints were then grouted with ULTRACOLOR PLUS high-performance, quick-setting and drying polymer-modified mortar available in numerous color shades.



ABOVE. In the corridors, stairs and study rooms wood-effect vinyl floors were installed with ULTRABOND ECO 571 2K polyurethane adhesive.



ABOVE. In several study rooms PVC floors were bonded with ULTRABOND ECO V4 SP.

Vinyl floorings for the corridors, stairs and study rooms

In the rooms designed for group study, as well as in the corridors and stairs, vinyl floorings were installed on screeds built using TOPCEM and smoothed over with ULTRAPLAN ECO 20. The adhesives chosen to bond the vinyl flooring were ULTRABOND ECO V4 SP, universal adhesive in water dispersion, suitable for all kind of resilient floor coverings, and ULTRABOND ECO 571 2K two-component polyurethane adhesive, which is used for installing PVC and rubber floorings both internally and externally on absorbent and non-absorbent surfaces. Skirtings were installed with ADESILEX LP, a contact polychloroprene adhesive providing a strong bond immediately upon application.



Find out more
ULTRABOND ECO 571 2K

TECHNICAL DATA

International School of Debrecen, Debrecen–Pallag (Hungary)

Period of construction: 2018–2019

Period of the Mapei intervention: 2018–2019

Intervention by Mapei: waterproofing roofs, installing ceramic tiles and resilient floorings

Owner: Municipality of

Debrecen

Design: BORD Architectural Studio

Main contractor: Hunép Universal Zrt.

Contractor for waterproofing works: Deszig Kft.

Ceramic installation contractor: Hunép Universal Zrt.

Resilient flooring contractor: Sándor Tóháti

Mapei distributor: GSV Kft.

Mapei coordinator: Krisztián Szénás, Mapei Kft. (Hungary)

MAPEI PRODUCTS

Waterproofing roofs: Polyprimer, Polyvap Radonshield P-AL, Polydren PP, Mapeplan M B_{roof} t1, Mapeplan Metal Sheets

Preparing substrates: Topcem, Ultraplan Eco 20*

Installing ceramic tiles: Keraflex Easy S1, Ultracolor Plus

Installing resilient floors: Ultrabond Eco 571 2K, Ultrabond Eco V4 SP, Adesilex LP

* This product is distributed on the Hungarian market by Mapei Kft. mapei.com, mapei.hu

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