

PEDESTRIAN COVERINGS IN TRAIN STATIONS

LOCATION

The "High Speed" railway project connecting Milan to Turin is part of the Strategic Infrastructure Plan endorsed by the Italian Ministry of Transport as well as a wider European plan which aims at boosting the European railway network with a view to further developing transportation of goods and people.



CLIENT

Private company operating under public concession agreement.

LOCATION	MILAN/TURIN ROUTE ITALY
USE	COVERING PLATES FOR MANHOLES AND TUNNELS
PRODUCT	SCH 40/38C_IFR AND 100/55C_IFR COVERED GRATING



OBJECTIVE

The customer was looking for an alternative to the classic solutions in concrete and steel for the construction of coverings for manholes and cable ducts along the railway line and in technical areas. This alternative solution had to meet the relevant carrying capacity requirements. Concrete is heavy and therefore not easy to handle. Furthermore, structures in concrete are subject to cracking as a result of the vibrations caused by the passage of trains. Steel coverings are subject to corrosion and they tend to be slippery when the surface is wet, thus entailing a potential risk for personnel's and users' safety. Finally they must be grounded to ensure electrical insulation.

SOLUTION

M.M. successfully installed the covered molded grating, type SCH 40/38C_IFR, in polyester resin, weighing 30kg/m², which can be removed by one single operator, thus ensuring easy and safe access to cable and tray systems and technical compartments. No lifting equipment is needed as the structure is equipped with concealed handles. The gratings feature an innovative molded slip resistant system, thus ensuring maximum adhesion even under wet conditions, in compliance with the DIN 51130 standard, R13 V4 level. M.M. covered gratings are designed to carry loads up to 150kg/m² and

are suitable also for heavy duty trucks and installations in technical areas. They last longer without showing a decline in their mechanical and visual properties (aging-certified according to ASTM G154-06 standard and certified for cyclic exposure according to the UNI EN ISO 9142/04 standard). The gratings are dielectric and do not need to be grounded. This eliminates the risk of electric shock completely. The type of material used and the structure of the grating limits treading noise to a minimum. Upon customer's request, specific tests were carried out in order to ensure maximum electrical insulation in compliance with the existing safety standards (EN 61340-2.3 and IEC 61340-4-5). Surface and transverse resistance and resistivity (Rs and Rt) and soil resistance and resistivity tests were therefore conducted on the coverings, which proved to be excellent insulators. The tests performed according to the ASTM D 149-97a standard showed a low current absorption factor.