

## FIBREGLASS MANHOLE COVERS: DISCOVER THE MANY ADVANTAGES

The new version of the EN 124 standard, published in 2015, which officially came into force on 1 April 2017, fills certain gaps in the previous EN 124 standard by introducing new materials, which have appeared on the market over the years, and new tests deemed useful in order to guarantee users' safety.

M.M. srl, a company based in Italy's Friuli region that has been operating in the fibreglass sector since 1977, has for several years been offering manhole covers made from composite material through a process of temperature-controlled, closed-mould compression moulding (Sheet Moulding Compound – SMC), using polyester resin, chopped strand fibreglass, woven fabric and various additives.

The manhole production process is class C3 ("Composite material C3", Point 4.2 Type of composite materials) in accordance with the requirements of the EN 124:2015 standard. The production process ensures excellent wettability of the fibres by the polymer matrix, avoids the formation of air bubbles and allows excellent interlaminar cohesion of the components.

Designed to meet the loads required by classes A15/B125/C250/D400 in accordance with the EN 124:2015 standard and certified by the ICMQ accreditation body, the composite manhole covers display similar hardness specifications to their cast iron counterparts but with **advantages in terms of resistance to residual deformations.**

Composite manhole covers **weigh up to 50% less than those made from cast iron.** The lightness ensures greater ease of handling both in the installation phase and in subsequent maintenance operations, with clear savings in terms of time, labour and resources. The reduced weight enables a significant reduction in transport costs.



Composite manhole covers ensure the **utmost safety** because **they are non-slip and an electrical and thermal insulator.** Moreover, many cities, both in Italy and abroad, have for several years witnessed the widespread theft of cast iron manhole covers, resulting in significant costs to replace the stolen covers, considering the cost of the new covers and installation service. These **thefts** pose a safety risk for any people or vehicles that pass by near shafts that have been left open. Unlike cast iron manhole covers, which can be sold and to recast the metal, composite covers have no value for thieves, thus reducing potential accidents and additional maintenance costs due to theft.



Composite manhole covers also reduce nuisance caused by noise. Cast iron systems, in fact, can generate noise problems from passing vehicles and people due to an imperfect coupling between the lid and the frame or because of improper installation.

Finally, the many advantages offered by composite manholes also include the option of **personalisation**, enabling innovative designs and various colour schemes.

Like all products made from fibreglass, a non-magnetic and radar-transparent material, composite manhole covers cause **minimal radio frequency interference**. Tests of permeability to electromagnetic waves performed at a specialist laboratory confirm low signal reduction for frequencies from 800 MHz to 6 GHz. This characteristic makes it the **perfect material for the development of smart cities** where the use of devices that do not interfere with communication infrastructure is indispensable for the exchange of information.

The main fields of application include water service, electrical power stations and substations, railway networks, filling stations (hazardous sparks are not created) and telecommunications networks.

Download the information brochure [here](#).