

## Case 04 Repair of manhole covers and grids

Road ironwork such as manhole covers, road gullies and duct covers need to be bedded with a resilient mortar to prevent the unit rocking or breaking up under traffic loading. Often the reinstatement of ironwork is done within traffic possessions under temporary roadworks and the time to reinstate is a critical factor.

### Constraints



The road needs to be rapidly set back to traffic, to avoid a too long traffic interruption



Ceiling of manholes should be quickly efficient, to resist to the weight of cars passing over it.  
A traditional site-mixed sand/cement bedding mortar will crack and crumble under traffic loads, resulting in premature failure of the cover and frame.



The final aspect of the manhole is important and it should be integrated in the road design

### Substrate preparation



Break and cut 10cm around the manhole at a 90 degrees angle



Clean dust and other materials, remove traces of oil, grease, etc... by brush or air-blowing



Humidify the area where the mortar will be laid. It should be wet but not waterlogged.

## Solution 04 *Repair of manhole covers and grids*

### Recommended products



Conrep.314 RD



Cure WT

Cure Y 40



### Application



#### Mortar preparation

Prepare a plastic consistency mortar by mixing a 25 kg bag of **Conrep.314 RD** with 4 to 5 liters of clean water. Mixing must be done for at least 3 minutes until a homogeneous paste is obtained. Do not mix it with another hydraulic binder (cement, lime or gypsum) or an admixture.



#### Mortar application

**Conrep.314 RD** must be used within 10 minutes (at 30°C) from mixing. Re-mixing with an extra amount of water is not recommended.

Apply **Conrep.314 RD** on the substrate. The thickness under the frame should be at least 3 cm. Ideal application temperature is between + 5°C and + 35°C. If the application temperature is higher than 35°C, make sure to use cool water to keep the mixed mortar temperature below 30°C.



#### Placing the frame

Place the frame and adjust it to road level (the grid/manhole should be perfectly adjusted and integrated in the road to avoid deterioration of the grid/manhole and to avoid damaging the cars when passing on it. Do not use wedges (metal, wood...)



#### Finishing

Fill the gap between the frame and the road with **Conrep.314 RD** with a trowel. Then Finish with a float and level the mortar to road level, to have a perfect flat finish.

After application, protect the surface by using a curing compound like **Cure WT** or **Cure Y 40** or by covering with properly secured plastic sheeting.