

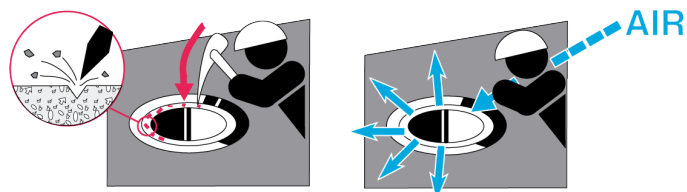
How to Install D400 Manhole Covers



1 Check the diameter of the manhole opening or groove that the frame is to be fitted on.

If necessary, insert a formwork around and/or inside the manhole on which the cover is to be fitted.


Make sure that the frame does not lay on the formwork when in its final position.

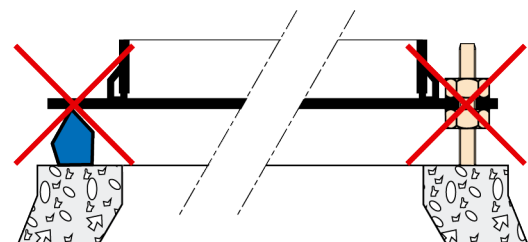


2 Check the condition of the manhole opening or groove, removing any debris, loose particles or dirt (oil, grease, etc.).

Remove any dust from the support.

3 Do not use any (metal or wooden...) brackets, or any threaded spindles when adjusting the height of the frame.

 **The cover must only be in contact with the sealing product!**

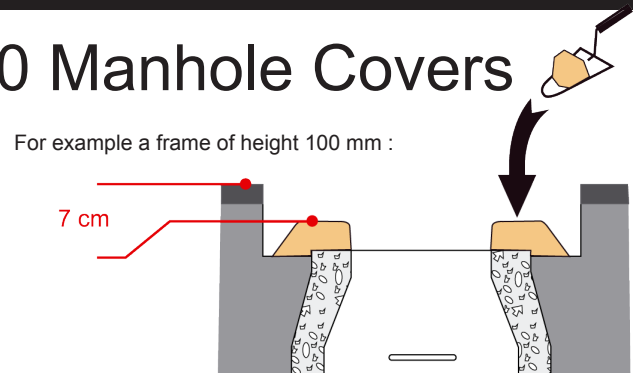


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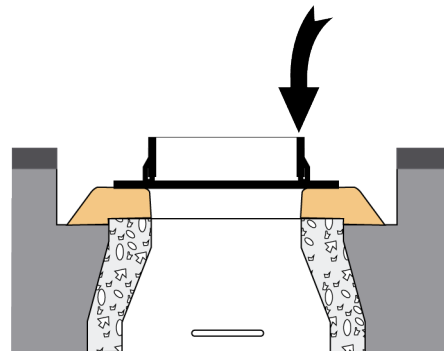
4 Lay a coat of sealing product around the top of the manhole. The minimum recommended thickness for the coat under the frame, once installed and levelled, is:

- 4 cm in the case of quick setting “micro concrete” type sealing products,
- 8 cm in the case of a 350 CPA concrete sealing.

It is essential to carefully follow the instructions of the product used.



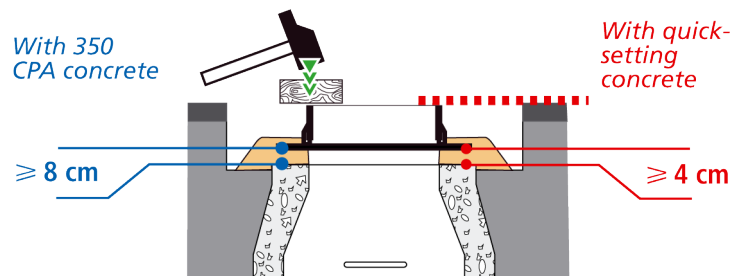
5 Lay the frame directly on the sealing product.



6 Adjust the frame to the same level as the wearing course.

This adjustment should be carried out by exerting downward pressure on the frame to ensure that the sealing product spreads evenly under the surface.

If the frame is situated below the surface level, then you must go back to point 4 and repeat operation 4.



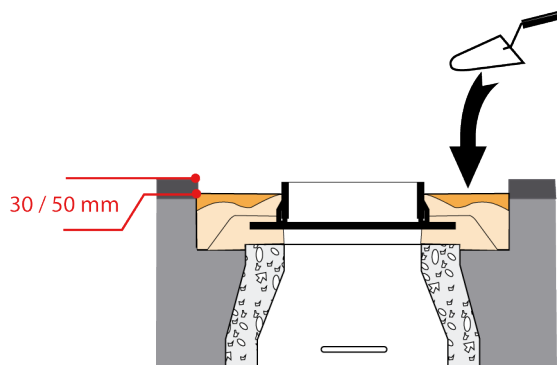
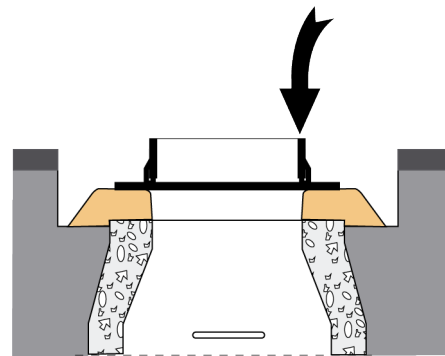
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7 Check that the frame openings have been completely filled.



8 Fill with sealing product.
At this stage you may opt to vibrate the concrete using vibrating needles, providing that you ensure that this will not alter the level of the frame.



9 Use a float or trowel to level off the product, leaving 3 to 5 cm for the later laying of the asphalt course.

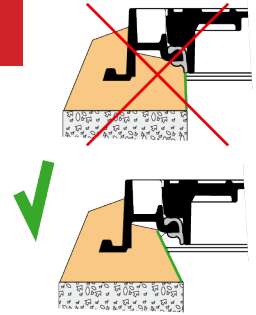
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PLEASE NOTE

Following installation, it is essential to check that the sealing product is not touching the lower section of the ring and prior to use, clean the manhole cover and the surrounding area thoroughly.

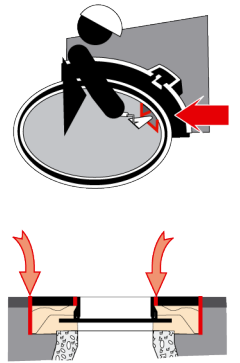
Particular care must be taken with the operating parts, namely the hinges, the elastomer ring or other, the bases, the spaces for the openings, etc.

In the case of PAMREX covers, leave a clearance space under the hinge box.



USEFUL TIP

In order to ensure that the sealing will last, especially under conditions of frost and thawing, we advise eliminating the water inlets on the sealing/roadway and sealing/frame interfaces by using either a liquid emulsion or a flexible joint.



ROADWAY REPAIRS

In the event of roadway repair work, the following precautions must be taken:

- Remove the frame seal with care to prevent any possible damage.
- Check that the mechanism has not suffered any wear and tear (e.g. caused by the cutting of the asphalt course).
- Remove any faulty parts or those you suspect may be faulty.
- Take care when resealing the frame, applying the same recommendations given for the initial sealing process.
- Check the state of the ring and change it if necessary: the ring is a maintenance element. Regular replacement will allow performance levels to be maintained over time.

You must also carry out the same checks (see above) as in the case of an initial sealing process.

RECOMMENCEMENT OF USE IN TRAFFIC

The seal must offer sufficient performance guarantees in order to withstand the general mechanical stress generated by traffic before the manhole cover can become operational once more.

Please refer to the sealing product specifications in order to determine the length of time before the manhole cover can be used under traffic conditions.