

Dexerials

Industrial-Use UV Curable Sealant UVS-1000C

Work Instructions

An example of a work procedure for an oil leak repair using UVS-1000C is described here, but it does not cover all types of repair work. Before use, adjust the procedure according to the work environment and parts to be repaired before use.



<Work Procedure>

Step 1: Preparation

Step 2: Applying and curing of first layer

Step 3: Applying and curing of second and subsequent layers

Step 4: Checking where the sealant is applied

Step 1: Preparation

1 Identify oil leakage parts.

Use a flaw detector, etc. to identify oil leakage parts.

2 Carry out surface preparation.

Use a belt sander or the like to remove the paint and rust from the oil leakage parts and the area around the oil leakage parts.

POINT

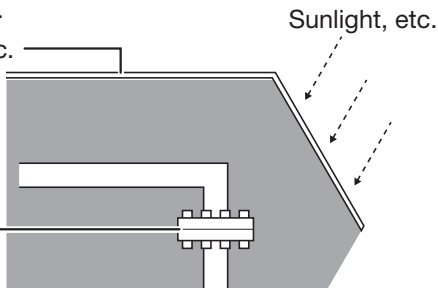
- If the paint and rust are not removed, you may not be able to achieve sufficient sealing performance.
- When using a belt sander, as there is a risk of sparks flight out, keep the sealant away from the work area.

3 Shield light with a blue tarp, etc. and prevent direct sunlight and reflected light. (In the case of working outdoors or indoors in an area that is exposed to sunlight)

If exposed to UV such as sunlight, the sealant will be cured quickly.

Blue tarp, etc.

Application site



4 Stir the sealant.

As there is a possibility that the components of the sealant will separate, mix them gently from the bottom of the container with a spatula or the like to prevent as few air bubbles as possible from mixing in before applying.



POINT

- Applying the sealant with it still containing a large amount of air bubbles will reduce its adhesive strength and may lead to recurrent oil leaks.

5 Use a paper towel and brake parts cleaner to clean and degrease the bonding surface.

POINT

- The product can also be applied on an oily surface, but the product will adhere more firmly if there is no oil on the bonding surface. Therefore, degrease the surface as much as possible before applying the product.
- Clean and degrease frequently at each application area.

6 If there is water on the bonding surface, wipe it off.

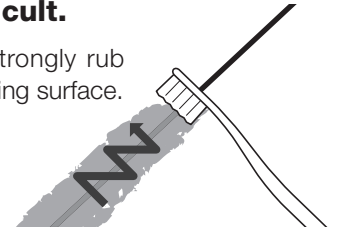
POINT

- If there is water on the bonding surface, the sealant will not adhere.
- If there is high humidity and condensation occurs, use a dryer to dry the bonding surface.

Step 2: Applying and curing of first layer

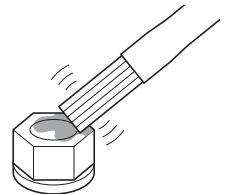
1 Apply the sealant from areas where application is difficult.

Use a toothbrush to strongly rub the sealant on the bonding surface.



When applying the sealant in narrow gaps, apply by moving the tip of the brush so as to apply vibrations.

By nature, the sealant runs when vibration is applied by moving the tip of the brush.



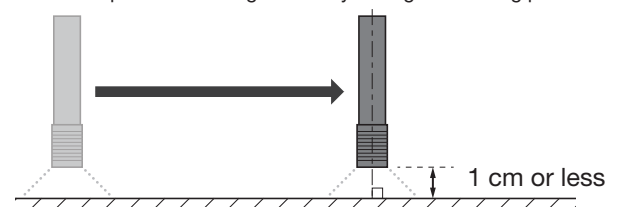
POINT

- As a small amount of oil or sanding sludge may remain on the bonding surface, firmly rub the sealant on the bonding surface to ensure a close contact.
- If too much time elapses from application of the product to curing, a leak path may be developed causing oil leakage, and so repeat application and curing over multiple occasions.
- A characteristic of this product is that poor adhesion may occur if the coating thickness is too thin or too thick. Therefore, set the coating thickness per layer to 1 to 3 mm.
- Rubbing spreads out the product and makes the coating thickness thinner, and so scrape it up (in some cases, add sealant) and adjust the thickness.

2 Irradiate the application part with UV from a short distance of 1 cm or less for 1 second or more to cure the product.

Vertically expose the application surface with UV so that the UV reaches completely through the sealant.

Irradiate the UV while moving the UV flashlight slowly. Do not stop the UV flashlight midway through the curing process.



POINT

- Immediately after application, irradiate the product with UV to cure it.
- Do not expose the part to UV while shaking the UV flashlight. Even if the surface of the product has cured, the inside of it may be uncured.
- For areas that are difficult to irradiate at close distances, such as narrow parts, irradiate for longer.
- For areas that cannot be directly exposed to UV, cure the product by using a mirror to reflect the UV.
- Make sure that no one is around you, especially when using a mirror.

CAUTION

Do not look directly at the light source when the UV light is on.

Doing so may hurt your eyes. Make sure to wear UV-cut glasses or goggles while working. Read the UV light instruction manual, especially the precautions, thoroughly before use.

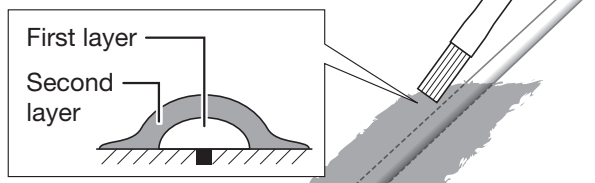
If the sealant gets on your clothes, immediately take off your clothes or remove the sealant from them.

The sealant immediately after curing becomes hot. If any sealant attached to clothes or gloves is exposed to UV, it may be cured and cause burns.

Step 3: Applying and curing of second and subsequent layers

1 Wipe off the slime on the surface of the first layer of cured sealant with brake parts cleaner and paper towel, etc., and apply another layer of sealant on top.

The overcoat should be applied to a larger area than the first layer in order to increase the bonding area with the substrate.



POINT

- By coating a wider area than the first layer, air bubbles and uneven coating are reinforced and the sealing performance is improved.
- We recommend that you apply more than 4 mm of sealant so that the final thickness is 4 mm or more.

2 Irradiate the overcoated area with UV to cure it.

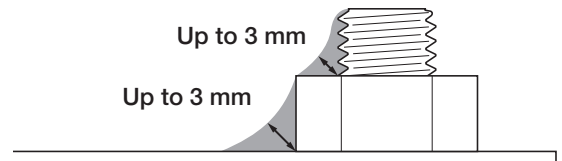
Step 4: Checking where the sealant is applied

Check carefully the whole area with an inspection mirror, etc. If there are parts where the sealant has not yet been applied (areas left unapplied, gaps) or pinholes, repeat Step 3 “Applying and curing of the second and subsequent layers.”

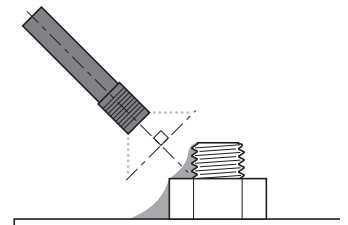
Key Points for Application

Base part of bolts and nuts

- Make the coating thickness of one layer a maximum of 3 mm. If the coat is too thick, the UV will not reach completely through the sealant, and some areas that have not been cured will remain, resulting in insufficient sealing performance.



- When irradiating, vertically expose the coated surface to the UV as shown in the figure.



When there is a large amount of oil leakage (example of around the outside of a flange)

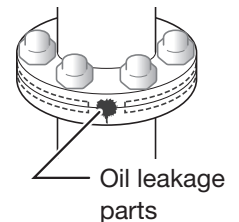
Around the outside of the flange, start sealing from the point where no oil leak has occurred.

Applying the product first from the oil leakage part may cause oil leakage from areas where there was not originally any leakage.

(1) Apply the product at places where no oil leakage has occurred.

Applying and curing of first layer

Repeat application and curing over multiple occasions to prevent the forming of leak paths and initiation of oil leakage.

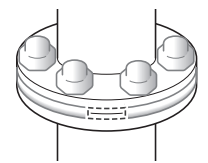


Applying and curing of second layer

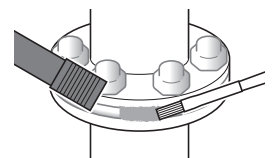
The second layer does not have to be done over multiple occasions, but can be applied and cured together.

(2) Apply the product at oil leakage parts.

If oil is seeping out, clean the oil leakage part and use a paper towel to press down firmly on the place of oil leakage until just before applying the product.



Apply the sealant while quickly blending it with oil. Then, cure it by exposing it to UV immediately after.



Once the oil leakage has been stopped, overcoat and cure across a wider area to add reinforcement.

POINT

- Carry out the application and curing work in a prompt manner.
- We recommend that two people carry out the work: one person to apply the product, and the other to cure it by holding the UV flashlight.

When peeling

If you want to peel off the sealant, use a tool such as a chisel to chip it off.

Be very careful not to damage the equipment due to the impact of the work.