

Optics Cleaning with Collodion

Use of low and high viscosity



AMATEUR TELESCOPE MAKERS SIG
OF THE
Alachua Astronomy Club

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Using the low viscosity collodion (LV)
Product Number - MD0002



The ingredients: Collodion and
a very dusty mirror (shown
removed from mirror cell)



This is how the mirror looked
before the procedure.



1. Use a basic household tape, just as clear or masking tape, to create a "dam" around the mirror. This is to prevent the collodion from spilling onto you and your work surface. It also avoids the collodion to peel the aluminum coating on the mirror surface.

Warning! Use collodion in a well ventilated area!



Make a tight seal
with the dam to
prevent spillage.



2. Pour the collodion liberally yet, uniformly on the surface of the mirror without touching it with the your fingers or the dispensing container.



This is a view of Don holding the mirror while the collodion dries. You can try to allow excess collodion to run across the mirror's surface for better coverage, but you might just as well apply more.



Adding a little more
collodion for
uniformity.



3. Once the collodion had dried, peel away the dam.



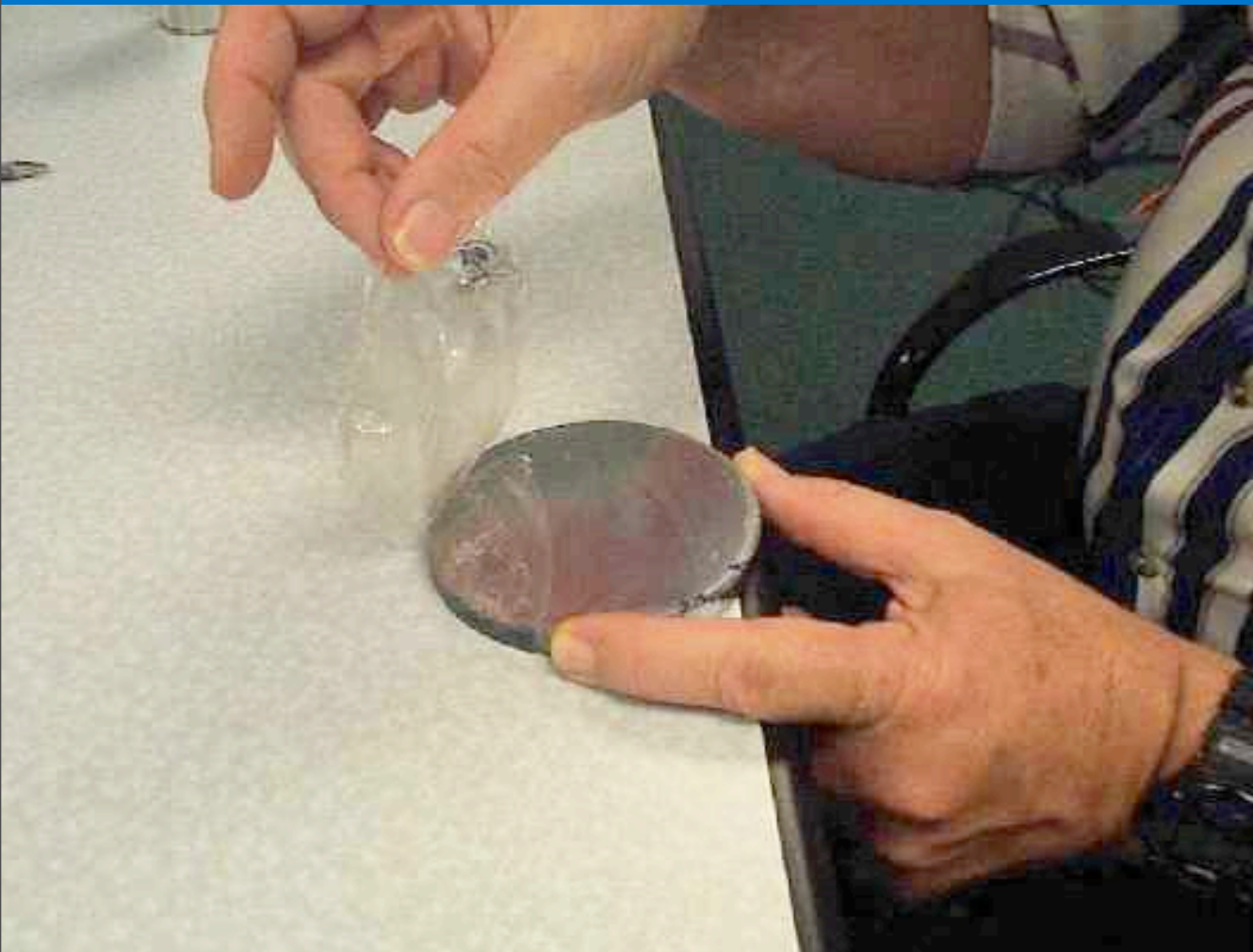
4. When the collodion is nearly dry, the edges will begin to peel by themselves. The pen points to a portion of collodion beginning to lift. This will happen if the mirror is dirty. In a semi-clean mirror it might not peel off.



Another view of the peeling.



After several minutes (5 - 10) the collodion has nearly peeled itself off, with very little assistance.



5. Peel away the remaining skin with your fingers.



Sometimes, the peeling process is not uniform and some pieces are left glued to the mirror. Take a piece of tape to peel it off.



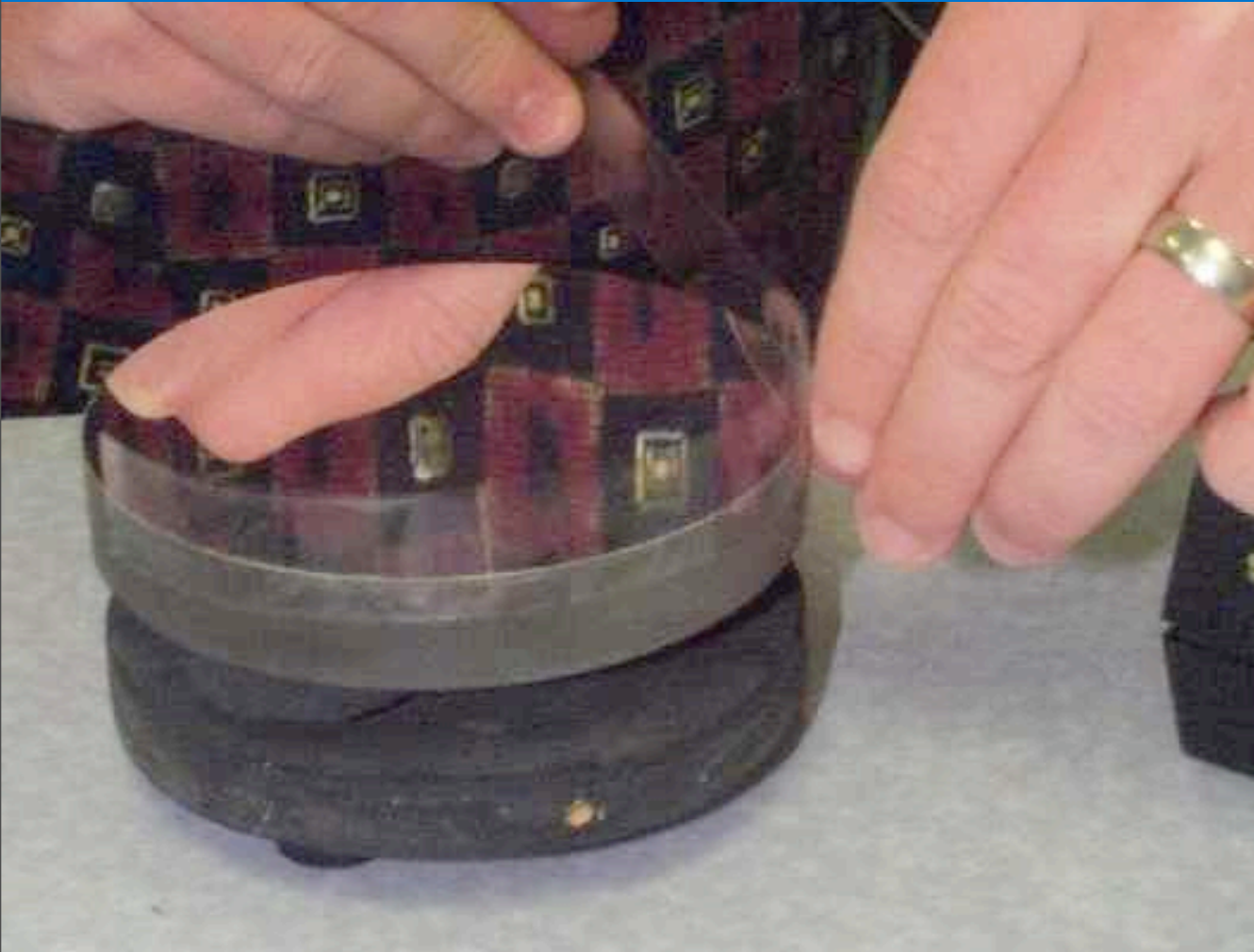
This is the mirror after the collodion has been peeled away. (The batteries of the camera started to run out, but you can still see the difference).



6. Lastly, a damp cotton ball may dab up any remaining residue.

You now have a clean mirror!

Use of high viscosity collodion (HV)



Here is Mike Toomey with a another small, dirty mirror. For large mirrors, you might try the following method with a sheet of cheesecloth.



1 & 2. Again, construct a dam, then begin pouring the collodion.



3. Before it can dry, gently lay a single layer of cheesecloth over the mirror, and secure the cheesecloth (this demonstration used a large rubber band, but larger mirrors may not need to secure large areas of cheesecloth).



4. Add more collodion, this time on top of the cheesecloth. The pores of the cloth will help the collodion spread more rapidly and evenly. You are attempting to have the top layer of collodion to cling to the lower layer.



As you can see, the collodion has started to peel away on its own (on the half of the mirror we did not use the cheesecloth).



On this small mirror, peeling took longer with the cheesecloth than without.



This is the mirror
cleaned!

Conclusions

- The use of low viscosity collodion (LV) is easier and makes the removal of dirt faster.
- The use of collodion is an easy and safe way to clean telescope mirrors and/or lenses. Does not work on plastic lenses!

Acknowledgements

We thank Mavidon®

www.mavidon.com

for providing the ATM-SIG with the samples of collodion USP.

If you have big project, we recommend to use

Collodion USP!

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