

Design Goals for First Contact (FC) Application & Removal Fixture

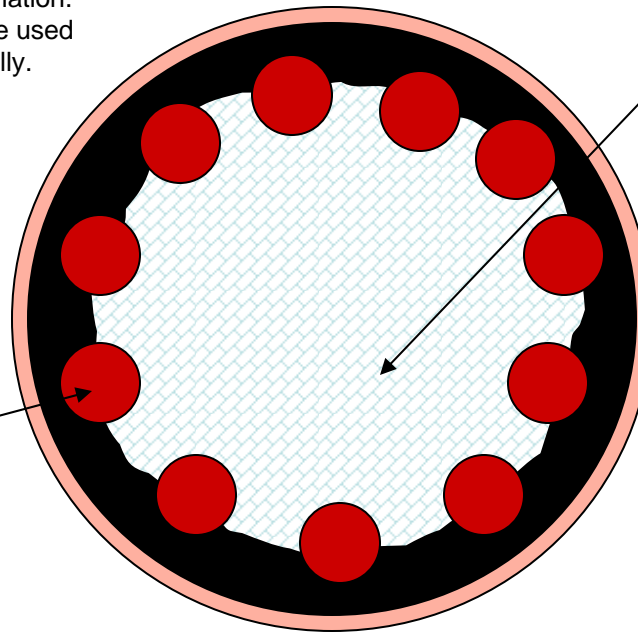
1. Ability to use the fixture on any of the optics.
2. Ability to use the fixture on both the front and back surfaces.
3. Usable when the optic is mounted vertically or horizontally, in-situ or ex-situ (to the interferometer).
4. Option to allow the fixture to be removed or remain on the optic during shipment, before / during / after its installation (not when under vacuum).
5. It has to fit in the shipment can of the optic if applied to both surfaces.
6. It can be disposable, but need not be.
7. Must be made of materials that will not be affected by the FC solvent.
8. Must form a tight masking seal on the optic, and not permit the FC to drip/seep under it, between the mask and the glass. It must contain all the FC within the ID of the mask (but FC can drip over the mask).
9. Must prevent FC mist from getting onto bevel, sides, or any other component.
10. When vertically mounted and applied, must catch any FC solution that drips / runs under gravity.
8. There should be enough elastic material forming the mask edge to be able to apply peel strips on the mask itself and onto the FC.
9. It has to be sturdy enough to serve as the thing that the technician actually pulls on when the FC is peeled off.
10. When removing the FC, it must be possible to position a hand-held N2 ionizing gun to blow at the interface of the FC and the surface as it is being peeled off.
11. It must not cause damage to the optic or its coatings.
12. Must not contact central 225 mm aperture on any optic.

To follow are simply ideas.

We can potentially leave the ring on during the installation.
Duplicate rings with disposable membranes might be used
for reapplying & removing FC when mounted vertically.

Discussing with Calum design strategy compatible
all the other systems and the install procedure.

Peel-Tape Strips

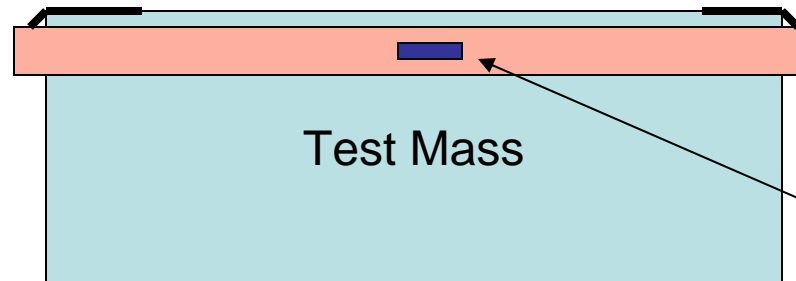


First Contact sprayed
onto glass area, and also
sprayed + brushed over the
border of the mask to
thicken it there.

It is left to dry.

When dried, the peel-tape
strips are applied.

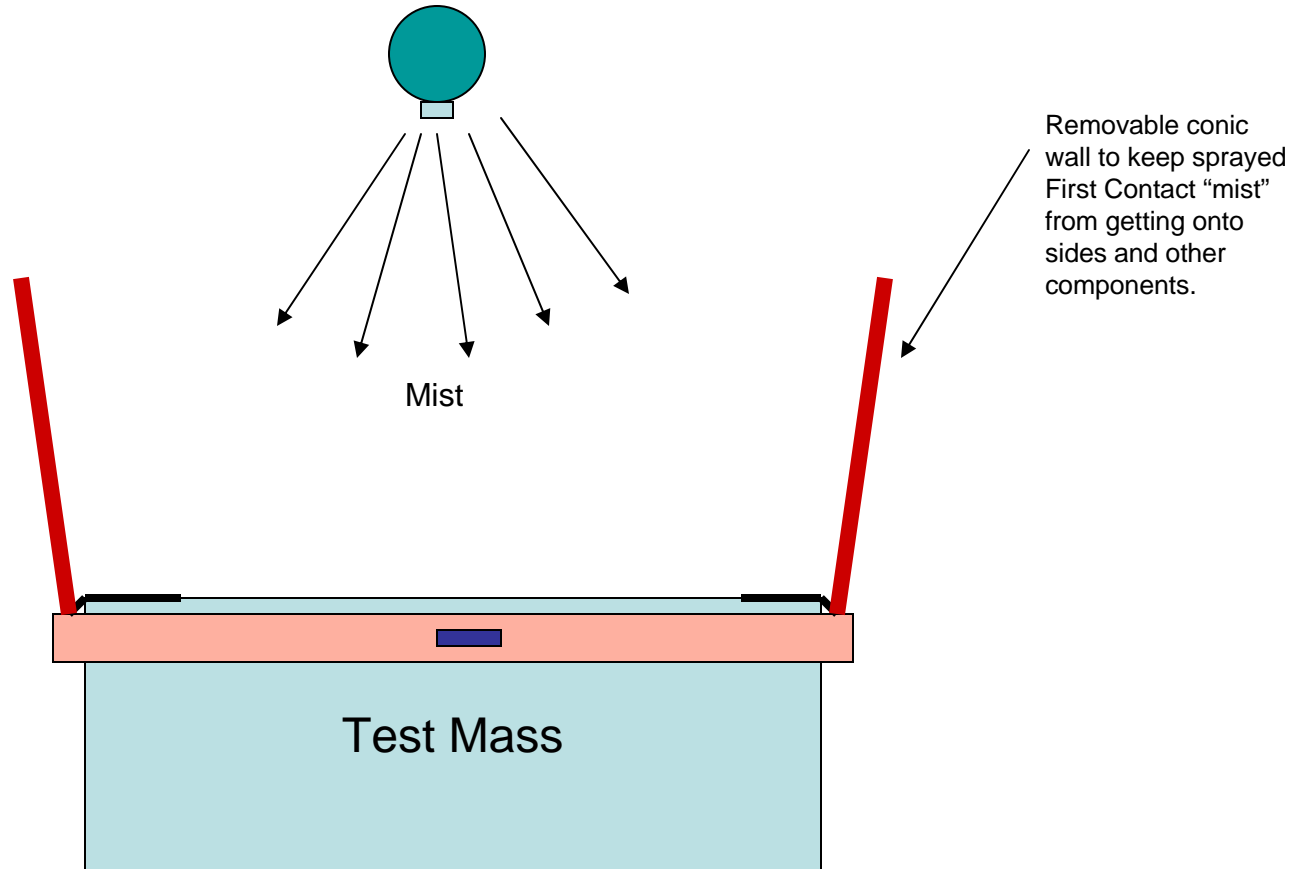
Elastic Membrane.
Scuba suit material.
Spandex.
Formed to make tight masking
edge.



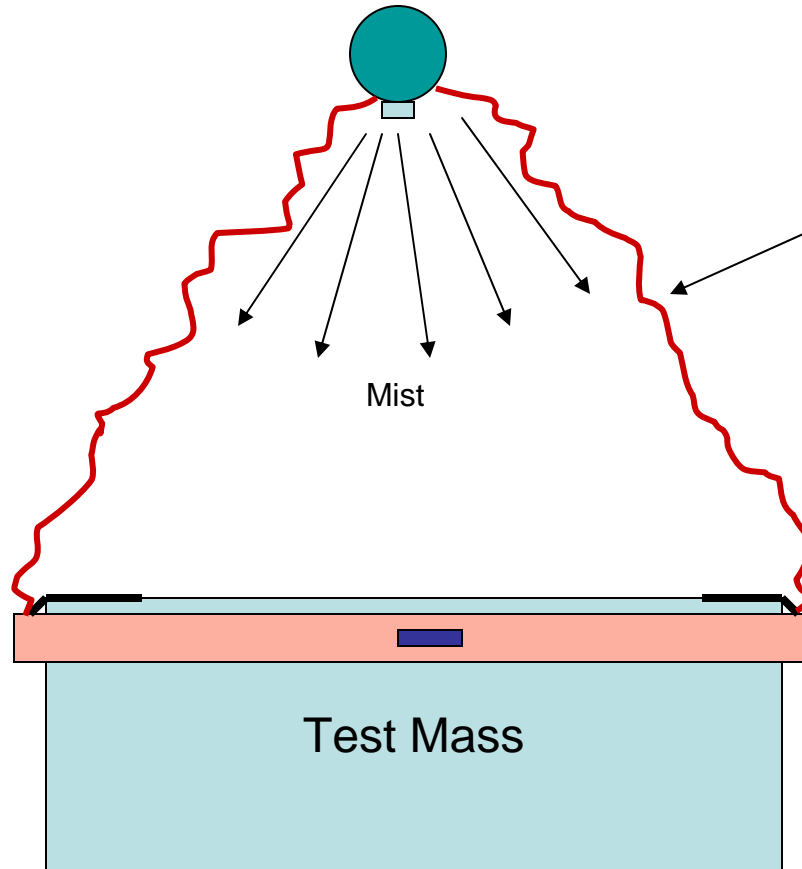
Ring clamp. Possibly
also an elastic material or
"belt".

Tightening mechanism.

Hand-Held Pump Bottle



Hand Held-Pump Bottle



Removable see-through flexible bag that attaches to keep the mist contained.

Need to move pump bottle around to get an even coat.