






	<p>CONSTGLASS</p> 
<p>Table of results</p>	



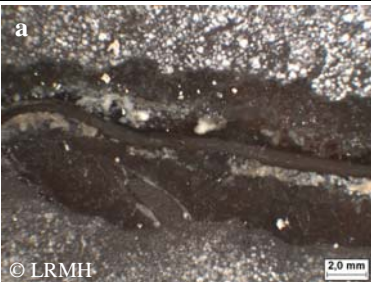

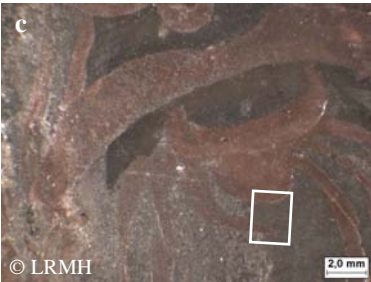

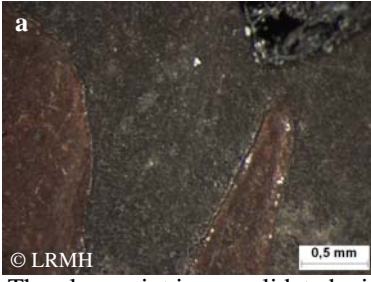

1- Pilot Object




<p>Pilot object:</p>	<p><i>The death and assumption of the Virgin</i>, CHARTRES Bay 42, panel 22</p>	
<p>Pictures</p>	 <p>© LRMH</p>  <p>© LRMH</p>	<p>Identification of the panel:</p> <p>Bay: 42 Panel: 22 Internal face, transmitted light Internal face, reflected light</p> <p>Treatment:</p> <ul style="list-style-type: none"> - 1988, by Alliou studio. - Products: polyurethane resin (80% Viacryl® SM564 + 20% Desmodur® N75), silicone CAF 3 and cold painting. - Application: with a soft brush after cleaning.


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2-Results

Sample reference:	<i>CHA_b42p22_I_v1: beige glass with Viacryl® consolidation on internal surface, silicone bonding and back plating</i>
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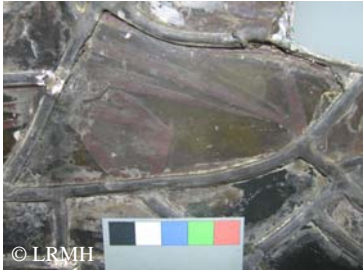

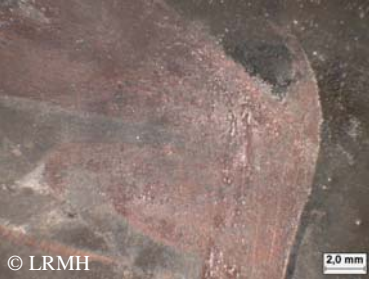
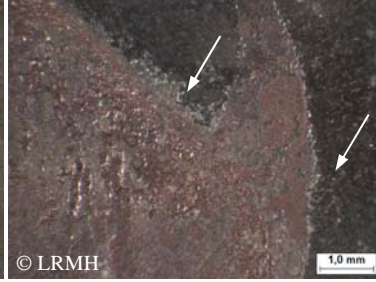
Questions	Techniques	Answers
Morphology - What is the morphology of the weathered coating? - How is the bonding between coating and glass?  © LRMH  © LRMH White rectangles locate the optical microscope observations (b and c)	Optical Microscope	 © LRMH 2.0 mm  © LRMH 2.0 mm Detail of the silicone bonding, external (a) and internal (b) surface. No visible deterioration: it is still smooth, has a good adherence with the edges of glass.  © LRMH 2.0 mm  © LRMH 2.0 mm Internal surface in reflected (c) and transmitted (d) light. Glass paint is a little brilliant, it seems to have a good adherence with the support. Are the darker areas on glass due to Viacryl®? Or is it distemper? (White rectangle locates the SEM view).
	SEM	 © LRMH 0.5 mm  © LRMH 15kV X40 500mm 20 42 17s The glass paint is consolidated with a polymer (supposed Viacryl, V) which is also on the glass. But we can see glass paint without Viacryl® (arrows) on the edges of the lines. (black area on the top right corner is a carbon marker). So, Viacryl® seems to penetrate only the surface of the grisaille.
	Desktop tomography	Not foreseen in this case: samples too large for tomography system.
	Phase-contrast tomography on Synchrotron	Not foreseen in this case: samples too large for tomography system.

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Chemical Composition - What is the chemical composition of the alteration products?	SEM/EDX	Calcium sulphate neo-crystallisations (gypsum) on the internal surface. On external surface, the white deposit is calcite, coming from the corrosion of putty.
Organic component composition	FTIR	<i>Not foreseen in this case: sampling is not possible.</i>
	RAMAN	<i>Not foreseen in this case</i>
Microbiology	Molecular biology ATP measurements	 <p>© LRMH</p> <p>No dust or soot is observed on the internal side of the recent glass, due to a good hermetic bonding.</p> <p>The results on silicone bonding and back plating are the following:</p> <ul style="list-style-type: none"> • slight accumulation of dust and dirt: no visible fungal infestation; • metabolic activity: not undertaken in this case; • isolated microorganisms: none.
Reversibility	Test studies Elimination	Mechanical reversibility of the silicone rubber between back plating and ancient glass is easy: after opening the system with high precautions (with a scalpel), tearing off the joint and scouring with a rubber. Concerning glass paint, nothing was attempted regarding to its good state of conservation. <i>See tests performed on bay 37.</i>
Re-treatability	Test studies Re-treatability	No test on re-treatment was attempted, but a new transparent silicone without acetic acid (Silirub N05 neutral, Soudal) was used before the stop in of the back plating. No need to re-treat grisaille on this case. <i>See tests performed on bay 37, panel 16.</i>

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Sample reference: *CHA_b42p22_I_v3: yellow glass with Viacryl® consolidation on internal surface*

Questions	Techniques	Answers
Morphology - What is the morphology of the weathered coating? - How is the bonding between coating and glass?  © LRMH  © LRMH	Optical Microscope	 © LRMH 2,0 mm  © LRMH 1,0 mm <i>a - detail of the grisaille before and after cleaning with a cotton saturated of water. The Viacryl® consolidant is visible on the cleaned area (brilliant aspect).</i> <i>b - detail of the grisaille after cleaning. Viacryl® seems to be still effective on the paint. The excess of Viacryl® is easy to see on the edge of grisaille (arrows).</i>
	SEM	<i>Not foreseen in this case: sample hasn't been unstopped.</i>
	Desktop tomography	<i>Not foreseen in this case: samples too large for tomography system.</i>
	Phase-contrast tomography on Synchrotron	<i>Not foreseen in this case: samples too large for tomography system.</i>
Chemical Composition	SEM/EDX	<i>Not foreseen in this case: sample hasn't been unstopped.</i>
Organic component composition	FTIR	<i>Not foreseen in this case: sampling is not possible.</i>
	RAMAN	<i>Not foreseen in this case: sample hasn't been unstopped.</i>
Microbiology	Molecular biology ATP measurements	<i>Not foreseen in this case</i>
Reversibility	Test studies Elimination	<i>Not foreseen in this case: consolidation is still effective and not dangerous for the grisaille.</i>
Re-treatability	Test studies Re-treatability	

Conclusion: the consolidation is still effective on most of the paints of the panel. There is not much corrosion products, but a lot of putty which was not removed during last restoration. The corrosion of the latter is starting or resuming on some isolated areas. On some pieces, the healthy grisaille is taken off by a thin layer of deteriorated glass. The consolidation does not avoid this phenomenon.

Regarding silicone rubber on the character's face, the bonding is still effective even after the unstopping of the piece. Concerning the silicone used in back plating, no deterioration and no biological contamination were observed. Removing the polymer is easy, and the re-treatment with neutral silicone is possible.