



**CONSTGLASS**



Viacryl<sup>®</sup> coating



Pilot objects	BOURGES	LE MANS
Bay (date)	4, Choir (Ca 1210-1215) The Last judgement	XVI, Nave (Ca 1120) The Ascension
Exposure	East - no protective glazing	South - no protective glazing
Composition of the product	80% Viacryl <sup>®</sup> VC 363 + 20% Desmodur N 75	80% Viacryl <sup>®</sup> VC 363 + 20% Desmodur N 75
Application: date (age of product) ; studio ; protocol	1981 (28 years) ; Mauret ; glasses + leads	1974 (35 years) ; Gruber ; glasses
<b>Morphology</b>		
Direct observation	Flaking, chipping, partial or total detachment, yellowing with a milky aspect, hard and brittle	Flaking, chipping, general detachment, yellowing with a milky aspect, hard and brittle
SEM observation	Alteration product = gypsum + gel layer. The gel layer is pulled out by the flakes.	Alteration product = gypsum + gel layer. The gel layer is pulled out by the flakes.
Desktop Xrays tomography	Adherence of the Viacryl <sup>®</sup> on gel layer. These techniques highlight the detachment of the gel layer by Viacryl <sup>®</sup> flakes.	-
Synchrotron tomography		-
<b>Chemical behaviour</b>		
FTIR	Chemical degradation : - decreasing of the secondary amides functions - increasing of the primary amides functions.	Chemical degradation : - decreasing of the secondary amides functions - increasing of the primary amides functions.
Raman	No need - information obtained with FTIR	
<b>Mechanical behaviour</b>		
	-	-
<b>Contamination</b>		
Fungi	Medium infestation	None
Bacteriae	Low	None
<b>Active infestation</b>		
Biological activity	Medium (459 RLU/25 cm <sup>2</sup> )	None
<b>Microbiological susceptibility</b>		
	not tested (no fresh product available)	
<b>Reversibility</b>		
Product 1	<b>Ethanol (gel)</b> good results, good swelling and loss of adherence	<b>Water-ethanol mixture</b> good results on surface, but remains in the craters
Product 2	<b>N-pyrrolidone (gel)</b> Good results, needs brushing near leads	<b>N-pyrrolidone</b> good for elimination into the crater
<b>Re-treatability</b>		
Product 1	no need	no need
Product 2		
<b>General observations</b>		
	<b>Insufficient durability, partial damage to gel layer when deteriorated</b>	
<b>Recommendations</b>		
Safety/healthy	<b>No more available</b>	<b>No more available</b>
Preparation	<b>Not to be employed</b>	<b>Not to be employed</b>
Application		
Future conditions of conservation	isothermal glazing installation	isothermal glazing installation