




Pilot objects	KLAUSEN	FRESH MATERIAL
Bay (date)	I, choir axis "Crucifixion and Flight to Egypt" (1878)	samples: UGent/SZA/1 UGent/SZA/ gestr/1 LBW/SZA/1 LBW/SZA/2 LBW/SZA/3 LBW/SZA/ gestr/1 LBW/SZA/ gestr/2 LBW/SZA/ gestr/3
Exposure - protective glazing	East	-
Composition of the product	Si / Zr (9:1), 14% solution in iso-butyl-alcohol	inorganic material based on silicon-zirkon-alkoxide
Application: date (age of product) ; studio ; protocol	1991 Cologne Cathedral	2008: Cologne Cathedral (protocol), application 3 times, also on sand blasted glasses
<b>Morphology</b>		
Direct observation	SZA was used for the stabilization of damaged paint layers. The treatment of the contours is not visible. During the application SZA sunk well into the contours. But due to its highly fluid character, the SZA inevitably spread out onto the surrounding area, including the overlaying film of unfired pigmented oil-lacquer. The today's condition of the SZA seems to be stable.	during drying-process the material contracted in the centre of glossy surfaces; on rough (sandblasted) surfaces good adhesion
SEM observation	SEM was done at KLA_SZA_1 after cleaning and retreatment with doped Paraloid®. It was not possible to see after cleaning whether SZA was removed or not. Only the new application with Paraloid® was visible.	-
Desktop Xrays tomography	The application of SZA wasn't possible to detect. SZA is inorganic and near to glass. A layer of glass on a surface of glass has the same resolution.	-
Synchrotron tomography	not for seen	-
<b>Chemical behaviour</b>		
FTIR	Almost not detectable with FTIR. Layers of SZA are very thin.	-
Raman	not foreseen	-
<b>Mechanical behaviour</b>		
	The treated areas are more stabile in comparison to the untreated areas.	stable at rough surfaces
<b>Contamination</b>		
Fungi	low contamination	On smooth glass low On sand blasted glass (gestr): high
Bacteriae	low contamination	no
<b>Active infestation</b>		
Biological activity	normal	On smooth glass low On sand blasted glass (gestr): high
<b>Microbiological susceptibility</b>		
	none	negligible, but roughness increases susceptibility

	<b>CONSTGLASS</b>	
	<b>SZA Consolidant</b>	

<b>Reversibility</b>		
Product 1	Treatment only for tests: MEK-gel (5 % Klucel <sup>®</sup> G) / compress Duration: 180 minutes Result: The exposure time of the MEK-gel was decided to be long enough (by Constglass consortium). Whether SZA has been removed or not, can visibly not be detected.	
<b>Re-treatability</b>		
Product 1	it might be possible with all usual materials	-
<b>General observations</b>		
	From the conservator's point there is no necessity to remove SZA at the moment.	-
<b>Recommendations</b>		
Safety/healthy	The solvent part of SZA and Ormocel <sup>®</sup> is highly flammable, the mixtures are also classed as irritants. Vapours may cause drowsiness and dizziness so use in a properly ventilated area is recommended.	-
Preparation	Both are ready to use solutions; if necessary Ormocel <sup>®</sup> can be diluted in the workshop with methylethylcetone, toluene or butoxyethanol	-
Application	It can be applied by brush. In most cases several treatments are recommended. a setting time of 3-5 days between every step of application is recommended, for optimum setting the relative humidity has to be higher than 50%r.H. during setting time	-
Future conditions of conservation	No action has to be done for the moment	-