



**Dow Corning® Structural Glazing (SG) or Structural Glazing (SG) & Insulating Glass (IG)
Production & Quality Control (QC) Audit Form**

General Information	
Company Name	Saint Gobain Glass Solutions
Production Location (City/Country)	Pruszkow
Primary Customer Contact	
Customer Contact Email/Phone	
Date of Audit	11 th of January 2017
Dow Corning Auditor	Tomáš Vrabel

Production Facility Operations Audit (Part 1)

Dow Corning Materials Used			
Cleaning Solvent(s):	<input checked="" type="checkbox"/> R-40	<input checked="" type="checkbox"/> 3522	<input type="checkbox"/> Cleaning machine:
	<input type="checkbox"/> R-41	<input type="checkbox"/>	<input type="checkbox"/> Other:
Primer(s):	<input checked="" type="checkbox"/> 1200 OS	<input type="checkbox"/> Primer C	<input type="checkbox"/> Other:
	<input checked="" type="checkbox"/> 1203 3in1	<input type="checkbox"/> Primer P	<input type="checkbox"/>
Sealant(s)	<input checked="" type="checkbox"/> DC 993	<input type="checkbox"/> DC 895	<input type="checkbox"/> Other:
	<input type="checkbox"/> DC 3362	<input type="checkbox"/> DC 3793	
	<input checked="" type="checkbox"/> DC 3362HD	<input checked="" type="checkbox"/> DC 3363	
	<input type="checkbox"/>	<input type="checkbox"/>	

Cleanliness of Production Area	
<input type="checkbox"/> Unsatisfactory (0 pts)	Comments: High level of home keeping, areas marked and organized, workflow well managed Recommendations: Keep the level
<input type="checkbox"/> Satisfactory (5 pts)	
<input checked="" type="checkbox"/> Excellent (10 pts)	



Sealant Storage and Handling	
<input type="checkbox"/> Unsatisfactory (0 pts)	Comments: Goods stored in tempered and fenced area with high level of organization. Recommendations: Keep the level
<input type="checkbox"/> Satisfactory (5 pts)	
<input checked="" type="checkbox"/> Excellent (10 pts)	

Sealant Storage Temperature (°C)	22,6°C, 17% rH
Production Facility Temperature (°C) and % Relative Humidity	22,6°C, 22% rH

Dispensing Equipment Operations (or extrusion gun for mono component)	
<input type="checkbox"/> Unsatisfactory (0 pts)	Comments: Equipment in excellent status, well maintained. Recommendations: Keep the level
<input type="checkbox"/> Satisfactory (5 pts)	
<input checked="" type="checkbox"/> Excellent (10 pts)	

Dispensing Equipment (or gun) Manufacturer and Model	Reinhardt
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Materials Approved for Adhesion and Compatibility?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
SG System & IG Approved by Dow Corning?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
SG System Manufacturer and Type/ IG Composition (glass types, spacer, butyl...) Various suppliers for each commodity, glass Saint-Gobain		

Substrate Handling and Cleaning (including traceability of approved samples vs. project substrates).	
<input type="checkbox"/> Unsatisfactory (0 pts)	Comments: Substrates prepared with high level of attention and cleanliness
<input type="checkbox"/> Satisfactory (5 pts)	Recommendations: Keep the level
<input checked="" type="checkbox"/> Excellent (10 pts)	

Primer Handling and Application	
<input type="checkbox"/> Unsatisfactory (0 pts)	Comments: Primers applied with high level of attention
<input type="checkbox"/> Satisfactory (5 pts)	Recommendations: Keep the level
<input checked="" type="checkbox"/> Excellent (10 pts)	

Sealant Application, Tooling and Inspection	
<input type="checkbox"/> Unsatisfactory (0 pts)	<p>Comments: Skilled operators with long professional experience and attention to their job, masking the non-glued edge, cleaning the spills immediately</p> <p>Recommendations: Keep the level</p>
<input type="checkbox"/> Satisfactory (5 pts)	
<input checked="" type="checkbox"/> Excellent (10 pts)	

Storage and Handling of Production Units (<u>Minimum of Satisfactory Required</u>)	
<input type="checkbox"/> Unsatisfactory (0 pts)	<p>Comments: Units stored in metallic racks</p> <p>Recommendations: Keep the level</p>
<input type="checkbox"/> Satisfactory (5 pts)	
<input checked="" type="checkbox"/> Excellent (10 pts)	

Minimum Time Until SG Production Units are turned vertical (Hours)	72
Criteria used until SG/IG Production Units are shipped to building site?	H-piece test
Minimum Time Until SG/IG Production Units are turned vertical (Hours)	24

Safety	
<input type="checkbox"/> Unsatisfactory (0 pts)	<p>Comments: all personnel equipped, area organized and clean, visitors equipped with high-visibility jackets, safety goggles and safety shoes.</p> <p>Recommendations: Keep the level</p>
<input type="checkbox"/> Satisfactory (5 pts)	
<input checked="" type="checkbox"/> Excellent (10 pts)	

Production Facility Operations Audit Sub Total (Part 1) (Maximum 80 Points)	80
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Sealant Production Quality Control Audit (Part 2)

Glass Test and/or Butterfly Test (Minimum of Satisfactory Required) – (for mono component please consider here the elastomeric test).	
<input type="checkbox"/> Unsatisfactory (0 pts)	<p>Comments: Glass test performed and results recorded and filed with given system described in the Quality Manual</p> <p>Recommendations: Keep the level</p>
<input checked="" type="checkbox"/> Satisfactory (10 pts)	
<input type="checkbox"/> Excellent (20 pts)	



Snap Time Test (Minimum of Satisfactory Required) – (for mono component please consider here the Skin over time test).

<input type="checkbox"/> Unsatisfactory (0 pts)	Comments: Snap time performed and results recorded
<input checked="" type="checkbox"/> Satisfactory (10 pts)	
<input type="checkbox"/> Excellent (20 pts)	
Recommendations: Keep the level	

Peel Adhesion Test, H-piece test dry or Butterfly Adhesion test (for IG) (Minimum of Satisfactory Required)

<input type="checkbox"/> Unsatisfactory (0 pts)	Comments: H-piece test performed and results recorded
<input checked="" type="checkbox"/> Satisfactory (10 pts)	
<input type="checkbox"/> Excellent (20 pts)	
Recommendations: Keep the level	

Peel Adhesion/H-pieces/Butterfly adhesion Samples are Stored in the Same Temperature and Humidity as SG/IG Production Units? Yes No

SG/IG Production Units are Only Moved to the Project Site Once Full Adhesion (100% Cohesive Failure – 0.7 MPa) is Achieved Through Peel Adhesion/H-piece or butterfly adhesion Testing? Yes No

Peel Adhesion Test and/or H-piece test wet for anodized aluminum (<u>Minimum of Satisfactory Required</u>)	
<input type="checkbox"/> Unsatisfactory (0 pts)	<p>Comments: H-piece test performed and results recorded. There is a budget in 2017 to purchase an Instron tester.</p> <p>Recommendations: Keep the level</p>
<input checked="" type="checkbox"/> Satisfactory (5pts)	
<input type="checkbox"/> Excellent (10 pts)	

Mixing ratio (not required but need process in place for investigation purpose)	
<input type="checkbox"/> Unsatisfactory (0 pts)	<p>Comments: Mixing ratio determination performed regularly and results recorded</p> <p>Recommendations:</p>
<input checked="" type="checkbox"/> Satisfactory (5pts)	
<input type="checkbox"/> Excellent (10 pts)	

Deglaze Test for SG projects	
<input type="checkbox"/> Unsatisfactory (0 pts)	<p>Comments: Deglaze test performed when needed and results recorded</p> <p>Recommendations: Keep the level</p>
<input checked="" type="checkbox"/> Satisfactory (5pts)	
<input type="checkbox"/> Excellent (10 pts)	

Quality Control Log (Minimum of Satisfactory Required)	
<input type="checkbox"/> Unsatisfactory (0 pts)	<p>Comments: All information about materials and testing recorded. In 2017 there is a plan to implement an electronic record system using the MS Excel.</p> <p>Comprehensive Quality Manual describes entire process and documentation in a graphic and easy to understand way.</p> <p>Recommendations: Keep the level</p>
<input type="checkbox"/> Satisfactory (10 pts)	
<input checked="" type="checkbox"/> Excellent (20 pts)	

Traceability Documentation	
<input type="checkbox"/> Unsatisfactory (0 pts)	<p>Comments: All information about materials, projects and testing recorded.</p> <p>Recommendations: Keep the level</p>
<input type="checkbox"/> Satisfactory (5 pts)	
<input checked="" type="checkbox"/> Excellent (10 pts)	

Trained Personnel	
<input type="checkbox"/> Unsatisfactory (0 pts)	<p>Comments: Skilled personnel with long working history, low turnover of key staff.</p> <p>Recommendations: Keep the level</p>
<input type="checkbox"/> Satisfactory (5 pts)	
<input checked="" type="checkbox"/> Excellent (10 pts)	

Name(s) of Trained Personnel



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Management Commitment	
<input type="checkbox"/> Unsatisfactory (0 pts)	Comments: All managers involved in quality and efficiency. Recommendations: Keep the level
<input type="checkbox"/> Satisfactory (5pts)	
<input checked="" type="checkbox"/> Excellent (10 pts)	

Sealant Production Quality Control Audit Sub Total (Part 2) (Maximum 140 Points)	95
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Dow Corning SG & IG Production and Quality Control Audit Total (Part 1 & 2) (Maximum 220 Points)	175
FINAL EVALUATION (Pass or FAIL)	PASS
APPLICATION TYPE	SG SG & IG

Summary Comments:
 Role model company in the industry with high level of management engagement, personnel awareness and overall process and quality control.



Summary Recommendations: REC1: Keep the level of Quality Management
Customer Comments/Action Plan:

Dow Corning Auditor Signature/Date

2017/01/11

Customer Contact Signature/Date