

Eyes of Automation

The Coherix Predator3D™ GlassMaster™ Pro identified a major urethane dispensing defect in real-time, helping Customer X avoid a windshield water leakage problem and expensive repair campaign.

Problem Statement

Customer X (a leading global automotive OEM) applies a high-profile triangular urethane bead on every windshield for installation on the vehicle frame for water seal and frame rigidity. One batch of urethane material was beyond its shelf life, resulting in viscosity deterioration. When the expired batch was used during production, the urethane bead dispensed was lower than the height requirement.

Previous to using GlassMaster Pro for real-time bead inspection, the urethane bead inspection process involved a manual inspection for the presence/absence of the bead immediately after installation and then a water leak test further down the line. If a water leak is detected, the line will be halted and Customer will conduct a major tear-down for repair, which is four hours of labor per windshield.

In this case, the low-height failure would not be visually identifiable, thus hundreds of windshields would be assembled with the faulty urethane bead. These windshields would fail the water leakage test and a major tear-down for repair would have to be initiated to correct them all, costing the assembly plant critical time and resources for repair.

Coherix Solution

Predator3D GlassMaster Pro is a 3D inline inspection and process control solution for the windshield urethane bead dispensing process. The bead inspection provides real-time 3D information on bead width, height, volume, location and detects skips or neck-downs with no external computer needed.

Result

Equipped with GlassMaster Pro, the Customer was able to catch the low-height bead defect as the bead was being dispensed in real-time on the windshield and address the urethane issue immediately before additional windshields were compromised. Figure 1 shows the 3D inspection result by GlassMaster Pro and the identification of the low-height condition.

With GlassMaster Pro integrated into the windshield assembly station, the Customer avoided a major quality leak, saved hundreds of repair hours and gained peace of mind for their windshield dispensing processes.

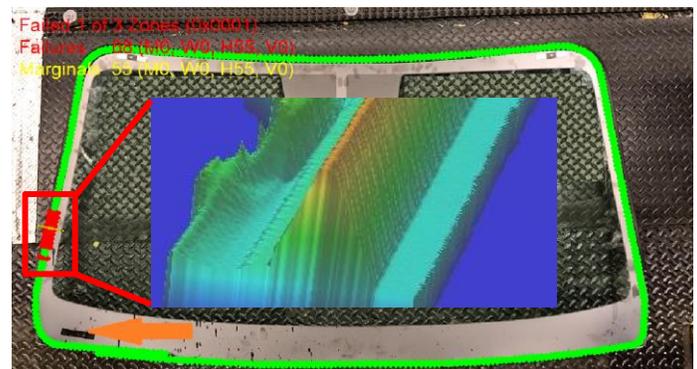


Figure 1: Bead inspection results identifying insufficient height

Imager	2	Display Index	2583
Track	0	Recipe Position	342
Classify Zone	1		
Width (mm)	7.91	(5.00 - 11.50)	
Height (mm)	10.54	(11.00 - 18.00)	

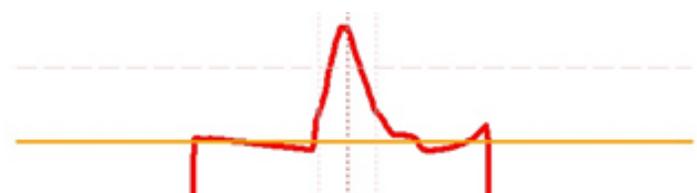


Figure 1a: Bead height failed by GlassMaster Pro due to material expiration