

Eyes of Automation

The Coherix Predator3D™ GlassMaster™ 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 thin urethane bead on every windshield to 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 lower than the height requirement.

Prior to implementing Predator3D for real-time bead inspection, the urethane bead inspection process involved a manual inspection for presence/absence of 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 (4) 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 is a 3D inline inspection and process control solution for the windshield urethane bead dispensing process. Predator3D 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 Predator3D GlassMaster, 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 to the right shows the 3D inspection result by Predator3D GlassMaster and the identification of the low-height condition.

With Predator3D GlassMaster 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 result identifying insufficient height

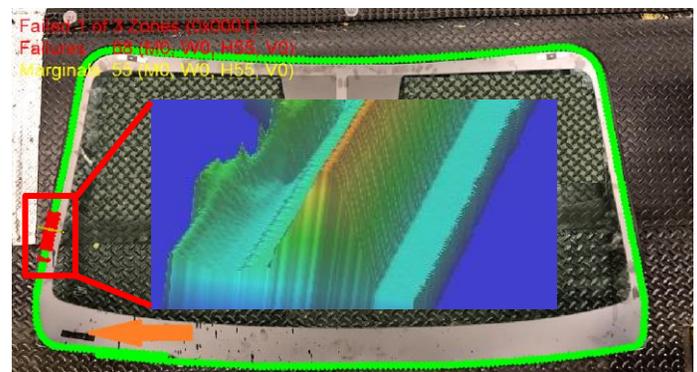


Fig 1a: Inspection Result and 3D view of urethane bead on windshield

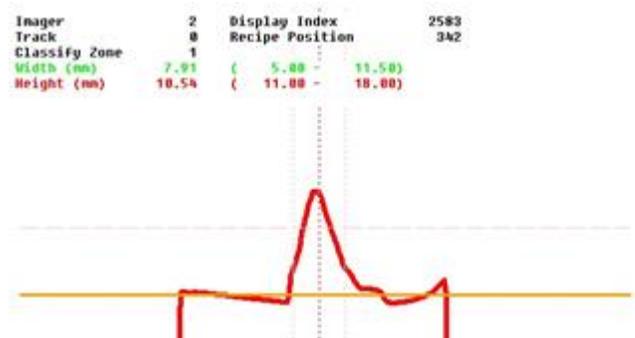


Figure 1b: Bead height failed by GlassMaster due to material expiration