



**LOCTITE**<sup>®</sup>

# PREMATURE ELECTRICAL FAILURE ELIMINATED BY LOCTITE<sup>®</sup>

LOCTITE<sup>®</sup> HY 4090<sup>™</sup>



Henkel Adhesive Technologies



**Customer Challenge**

A LED light bulb manufacturer was facing complaints of premature bulb failure due to moisture penetration through the bondline at the interface of the bulb cover and body. The manufacturer was using an instant adhesive which had low thermal resistance that created bondline failures. They were looking for a bonding solution that would be able to maintain bond strength at bulb's operating temperatures.

**Henkel Solution**

A LOCTITE<sup>®</sup> engineering solutions expert recommended using LOCTITE<sup>®</sup> HY 4090<sup>™</sup> hybrid adhesive that would give the right strength and also have the speed advantage of the previously used instant adhesive. The solution was applied to the lens groove of the plastic light case through a dual cartridge dispenser equipped with a mixer nozzle and the cover glass lens was manually pressed into position. The assembly bonded with LOCTITE<sup>®</sup> HY 4090<sup>™</sup> was able to maintain bond strength under the bulb operating temperature test.

**Results**

LOCTITE<sup>®</sup> HY 4090<sup>™</sup> eliminated premature electrical failure by maintaining bond strength and sealed against moisture penetration.

