

Bonding optical couplets

A question from the [DYMAX blog](#):

We have to manufacture a component which is comprised of two individual parts molded from acrylic (PMMA) that have slightly different additives. The parts have concave and convex surfaces which fit onto each other. We want optical coupling between these two surfaces. Can we place one piece as an insert and mold the other over it? Is there some other, better method to achieve the same effect?

One common technique to bond couplets together as described is to mold both acrylic lenses separately and then bond them together with an [optically clear adhesive](#). There are **optical grades** of adhesives that have excellent adhesion to acrylic, are designed to be transparent to most visible wavelengths, possess low shrinkage, stress, and viscosity for easy [dispensing](#) and alignment, and then cure uniformly and evenly under the [proper light source](#). The real benefit is that you can optically align the lenses together while the adhesive is wet, and then cure on-demand.



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