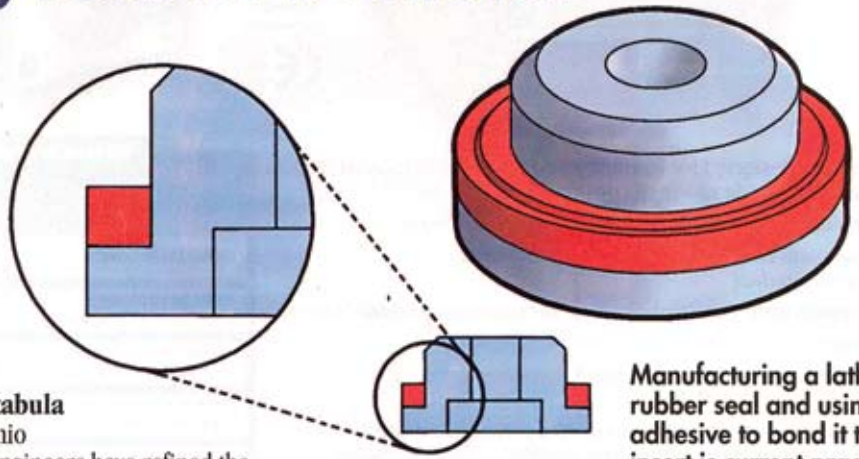
# Bonding rubber to metal

Rubber components such as O-rings and seals are often used in high-pressure applications. But pressure can dislodge or destroy assembled seals. A rubber-to-metal bonded part might prevent this — if you can get a good rubber to metal bond. At **The Ashtabula Rubber Co.**, Ashtabula, Ohio (*ashtabularubber.com*), engineers have refined the process in which rubber is joined to the metal (or other substrate) when the rubber component is actually molded. Cross-linking within the rubber and between the rubber and adhesive occur simultaneously, creating bonds stronger than the tensile strength of the rubber. This means the rubber will break before the bond, and that the bond will withstand extreme temperatures and chemicals better than those created by adhesives applied after molding. Bonding rubber to metal during molding reduces the number of secondary operations and the number of parts needed. It also prevents assembly errors such as incorrect orientation. *Circle 403*



**Manufacturing a lathe-cut rubber seal and using an adhesive to bond it to a metal insert is current practice.**