

LASER DEMOLDING APPARATUS AND METHOD

1 ABSTRACT OF THE DISCLOSURE

An automated demolding apparatus for mechanically separating contact lens mold portions of a mold assembly. The mold assembly includes a first front
5 mold portion having a central mold section with a surrounding flange, and a corresponding second back mold portion also having a central mold section with a surrounding flange, with a molded contact lens being formed between the front and back mold portions. The
10 demolding apparatus includes restraining fingers positioned between and on opposite sides of the spaced flanges of the first and second mold portions and against the flange of the first mold portion. A separating fixture includes separating fingers
15 positioned between and on opposite sides of the spaced flanges of the first and second mold portions and against the flange of the second mold portion. Before demolding, the second mold portion is irradiated by a laser beam, which is absorbed thereby to cause a
20 substantial temperature gradient between the second mold portion and the contact lens being demolded. The temperature gradient causes a differential expansion and shifting of the surface of the heated second mold portion relative to the surface of the lens to lessen
25 the adhesion therebetween to assist in separation of the mold portions, while leaving the lens in the first mold portion. During demolding, the separating fixture is subjected to a substantially vertical prying motion relative to the restraining fingers to separate the
30 second mold portion from the first mold portion.