07 FEB 2003



162162



G00002

MARKING OF MOLD INSERTS TO PRODUCE MARKED CONTACT LENSES

ABSTRACT OF THE DISCLOSURE

A method for producing visible marks in molded contact lenses, particularly soft hydrogel contact lenses, by placing a recessed mark configuration in a metal insert. The metal insert is subsequently used to produce injection molding frames, which are then subsequently used in the molding of the final contact lenses. The recessed mark configuration is at least approximately 10 microns deep, has a Volume Index, which is the ratio of the quantity volume below a reference surface minus the volume above the reference surface over the volume below the reference surface, of at least approximately 0.9. The recessed mark configuration also preferably has a ratio of surface roughness (RMS or Ra) to a peak-to-valley (PV) measurement, RMS/PV or of Ra/PV, of greater than approximately 0.15. The recessed mark configuration in the metal insert is subsequently transferred as a raised portion to the injection molded frames, and is then subsequently transferred as a visible recessed mark in contact lenses molded in the frames prepared using the inserts. The ratio of the surface roughness (RMS or Ra) to the height (H), wherein H is the distance between two reference lines in a profile of the mark, RMS/H or Ra/H, is at least approximately 1.5. A preferred method of imparting the recessed configuration to the insert is by Electric Discharge Machining (EDM). The dimensions of the several parameters can be verified by using a noncontact scanning white light interferometer.