

Repairing age cracks and dents in brass lights

Yellow brass is a copper alloy consisting of 35% zinc and 65% copper. Season or age cracking is common in brasses containing greater than 65% zinc and is by far the greatest problem in brass lamp restoration. Season cracking is the spontaneous cracking that occurs on exposure to atmospheric corrosion in brass objects with high residual tensile strength at the surface. Cracks may be prevented by removing these high internal stresses by relief “annealing” at 475-530 degrees F.

Higher annealing temperature can be used but this may soften the brass. This, however, is desirable for dent removal in which water will make the metal very soft and ductile. Dents should not be removed while the metal is hot as brass has little strength at high temperatures and will crack easily. Once the dent is removed, file the area where the dent existed, sand the area with emery cloth, and buff.

Brass, even when free from internal stresses, will crack when exposed to corrosive conditions under high service stresses such as vibration from the motion of a moving antique car or repeated heating and cooling of lamps and other brass parts.

After cleaning and polishing an old lamp, you may find red spots in the brass that do not polish away. No amount of polishing, sanding or even filing will make the spot go away. This is due to some kind of corrosion that preferentially attacks the zinc in the brass leaving the copper exposed. Hence, the red copper spots. Usually these spots are not just on the surface, but continue through nearly the entire thickness of the metal. It is possible that poor alloying promoted this type of corrosion.

In an effort to repair cracks in spun or pressed brass parts the easiest way, and the one that looks the best, is to silver solder the crack once the brass has been annealed. The silver solder should be the type that contains the greatest amount of bronze, as the color of the solder will most closely match the yellow brass. Silver solder can repair the crack and can be filed and polished to look like new.