

Guide to Dipping Application of ZRC Cold Galvanizing Compound

As a general rule, we try to discourage dipping application of ZRC for the following reasons:

1. The zinc content of ZRC is heavier (by weight) than its vehicle, so when an item is removed from ZRC after dipping, the zinc runs off faster than vehicle leaving a coating consisting of mostly vehicle (very little zinc) which would be non-galvanic -- defeating the purpose of ZRC.

If the unit to be dipped can be rotated during cure to avoid run-off then it is do-able.

2. ZRC is a one-component coating and, as such, cures by solvent evaporation followed by vehicle oxidation. When a large volume of ZRC is exposed (such as a large dip tank), the solvent will evaporate allowing ZRC to begin the curing process. What actually happens is a "stratification" into layers -- zinc on the bottom, gelled vehicle in the middle, and vehicle/solvent solution on the top. Once this stratification occurs, it can not be re-homogenized to be usable and must be disposed of as a hazardous waste. This stratification can occur within four days depending on heat, humidity, surface area of ZRC exposed, mechanical agitation, etc.

If the above-mentioned concerns can be adequately addressed, we recommend the following procedure:

- A. Determine necessary viscosity of ZRC and dip time to give a minimum dry film thickness of 3 Mils on dipped parts. Use our XXX Thinner or Xylene/Xylol to adjust viscosity.
- B. Ensure parts are completely clean and free of any pre-existing coatings. The zinc in ZRC must be in direct contact with the metal surface to galvanically protect it from corrosion.
- C. Dip parts for predetermined dip time.
- D. Upon removal, continuously rotate parts until surface is dry to avoid runoff and drips.
- E. Once parts are dry to the touch (approx. 30 mm. @ 25 degrees C.) hang them to dry according to ZRC published dry times.

It is **very important** that the thinned ZRC in the dip tank be continuously agitated during the whole dipping process to avoid the possibility of settling and stratification. Also, the viscosity of the batch must be continuously monitored and adjusted to ensure proper coating thickness.