

Armorgard 505

Troubleshooting

1. What is the nature of the failure? What happened?
2. Why do you suspect the problem/failure was due to the AG 505? What is the lot number of the material?
3. Was the material mixed at the proper ratio?
AG 505 is to be prepared with two parts by volume of resin (A-505) and one part of hardener (B-505). “Eyeballing” is not a satisfactory method for accurately measuring these volumes. **DO NOT** add extra hardener (B-505) in an attempt to accelerate the curing process. This has little effect on the rate of cure of the material and it will adversely affect the properties of the resulting material.
4. Were proper mixing procedures used?
Once the resin and hardener have been combined the epoxy system should be mixed ~3 minutes using a low speed drill and a Jiffy type mixture. Under mixing may lead to soft or uncured spots in the resulting form. Over mixing at high speeds will result in excess air entrainment which may lead to surface bubbles on the cured form.
5. Was the mixing container scrapped clean in order to save on material? Scrapping the last remaining AG 505 material from a mixing container on to a form is not recommended. Unless the sides and bottom of the mixing container were **thoroughly** scrapped and blended in **during** the mixing process the residue on the side of the mixing container will not be homogenous. This again may lead to “soft” or uncured spots on the finished form.
6. Was the AG 505 over-worked?
Repeatedly rolling into the AG 505 after it has been evenly applied is unnecessary and not recommended. This may introduce additional air into the coating resulting in surface defects/bubbles. If performed long enough after mixing the AG505 may not have sufficient time to self-level before the curing process begins.
7. Was the AG 505 stored at the appropriate temperature?
AG505 will perform its best when stored at 60-80°F. Storing the AG505 at temperatures below 60°F for prolonged periods of time increases the chances of crystallization of the epoxy resin.

8. Was the AG 505 mixed/applied at the appropriate temperature?
AG505 will perform its best when mixed/applied at 60-90°F. Applying at higher than 90°F is OK but there will be a significant reduction in the amount of working time available. AG 505 will cure at temperatures below 60°F but the possibility of various surface anomalies arising increases as the cure temperature decreases.

9. Was the AG 505 applied too thick or too many coats?
AG505 may be applied in multiple coats up to 1/8" (125 mils). Once the material is thicker than 1/8" it becomes slightly more brittle and susceptible to cracking when stressed.

10. Was a sufficient amount of AG505 applied?
Out-gassing (cured bubbles on surface) may be observed under a few circumstances.
If the AG505 was applied too thin (<15-30 mils) this can happen especially on wood/concrete surfaces.
Sometimes a prime coat is needed to seal concrete/wood if quite porous. Once the substrate is sealed, additional coats should not exhibit excessive out-gassing.

11. Was the form properly prepared prior to coating with AG 505?
Wood doesn't normally require prep as long as no wax, oil or excessive dirt is present.
Acid etched concrete should be thoroughly rinsed to a neutral pH and allowed to dry.
Steel should be prepped to a "white metal" state. A solvent wipe is recommended to remove oil accumulated during the blasting process. Lack of profile on steel can also be a problem.

Other Potential Problem Sources:

12. The surface of the AG505 feels greasy to the touch.
This is amine blush and is a result of the AG 505 having too much "open time" in a damp or wet environment.

13. The surface of the AG505 has noticeable amount of fish-eyeing.
Usually due to use of cold AG 505 and applying under cold/cooler conditions. May also be old material where the resin has started to or is on the verge of crystallizing.

14. The material is not cured; wet or gel-like to the touch.
Lower temperatures will extend cure time. Very low temperatures can extend cure times **significantly** to the point where the AG 505 will essentially stop curing altogether. Monitor the coating temperature and keep above 50°F.
This can also occur when the material is mixed off-ratio.