



Application Instructions

DT-420 Mold Sealer - Product Application Instructions

October 2018

Description

DT-420 is formulated as a sealer for molds and tooling of either metallic or composite substrate(s) with small scratches and micro porosity imperfections. DT-420's outstanding adhesion properties stem from the covalent bond which occurs within itself and with the substrate as it cures. Inherent to its formulation, DT-420 Sealer does not adhere to silicone substrates or itself once it has fully cured. Exceptions to this are noted in the section herein pertaining to "re-coating". For more on the cure and adhesion properties of DT-420, see the ***Tech Bulletins*** in the [Downloads](#) of our site.

General Instructions

As in all coatings, prior to application make sure all the mold and or tooling substrates have been cleaned well, and any prior (non-Dyna-Tek) mold sealers have been removed.

Not only an excellent sealing material, DT-420 also has very good release properties itself; albeit not as good as Dyna-Tek's DT-6060 Mold Release material. Consequently, as DT-6060 begins to wear off through use; the very good release properties of DT-420 will extend the production life of the mold and tools until another coat of DT-6060 can be added. For more on this, see the application data sheet for DT-6060.

In some cases, DT-420 has also been applied to the face side to re-seal molds, which were no longer hold a vacuum. Consult with Dyna-Tek for additional training prior to attempting this.

Safety Data

Be sure and read the Safety Data Sheet (SDS) prior to applying DT-420.

Application

For consistent results, apply DT-420 in well illuminated and climate-controlled environments. The following instructions are deemed to be the recommendations of Dyna-Tek. Deviations from these applications can produce good results as well, however long-term testing by Dyna-Tek is still inconclusive and therefore deviating from the methods defined below are not recommended. Dyna-Tek recommends:

1. Use clean, lint-free cloths such as Sontara blue cloths (pn E-4143) for wiping DT-420 on to surfaces.
2. Pour Dyna-Tek DT-420 on to a folded cloth until it is wet, but not dripping. Pouring DT-420 on to the tool surface is not recommended. It depends on the part, and level of finish required, but working within an area of 4 square feet is usually recommended.
3. Begin applying DT-420 to one end of the mold surface. Throughout the application, always keep the application cloth saturated. Never use a dry cloth at any time during application. Use care to wipe on in a smooth and continuous manner until a thin, wet film is visually seen. Depending upon the condition and cleanliness of surface, the cloth may show signs of picking up dirt/residue that did not show up when cleaning the substrate earlier with the recommended cleaning solvents. This is not a problem and only demonstrates the DT-420 displacing these contaminants from the pores of the substrate to the surface. Depending upon the amount of residue showing on the cloth, the cloth can be refolded to provide a clean surface to continue wiping DT-420 on the surface without losing the material already in the cloth; however always be sure to keep the cloth wet so it is not absorbing and removing coating already applied.
4. On this first coat, work the DT-420 into the surface until you can see it no longer absorbing material and begins to tack up. NOTE: Pay attention to the overall surface being coated; looking for areas where the surface seems to show more porosity than others. In these areas, continue to work in more material until those areas fill in as well.
5. Once confident the section of the mold being coated is consistently wet and begins to tack up, re-apply more DT-420 to a clean portion of the cloth and very light and consistent manner apply a thin, wet layer to the surface using care to make sure it does not pool, run or leave visible streaks.
6. Ambient cure: Allow the final coat to cure at room temperature (ideally 60° - 70° F.) for a minimum of one hour. If the tooling cannot be thermally cured, the coating should be allowed to cure for 5 days for optimum performance.
7. Thermal cure: Always allow the part/coating to flash off and ambiently cure for a minimum of 60 minutes. Thermal cure using a convection oven, or any other oven capable of providing a consistent temperature throughout and has oxygen present (oxygen is required to enhance the cured properties. Cure temperature of 121° C./250° F) for a minimum of 1 hour; longer if the part is s.
8. Upon completion of curing, allow the tool to cool to room temperature before applying Dyna-Tek DT-6060 Mold Release.

Touch-up and Re-coating.

DT-420 was formulated not to adhere to itself once fully cured. However, 420 will adhere to areas of itself where abrasion/scratches have occurred; thus repairing even areas with abrasions not seen by the naked eye.

Consequently, as operational wear and tear requires the tool/mold to be recoated, the DT-420 can be reapplied to reseal the substrate. To do so:

Prep the surface:

- Clean the surface using methanol solvents such as Isopropyl Acetate, T-Butyl Acetate or Denatured Alcohol; using best efforts to ensure the surface is free of any impurities.
- Allow to fully dry.
- Lightly sand the substrate using industry standards and experience as needed to prep the surface. However, on the final surface treatment prep, use 320 grit sanding material ensure all sharp edges or burrs are removed. In situations where only a portion of the tooling is being worked on, in areas where the treatment meets existing DT-420 Sealer, lightly sand between the two to feather/blend the area where they meet.
- Once done with this, blow off the surface using clean, dry air.
- Again, clean the mold with the approved solvents to make sure all loose debris and dust has been removed. Allow to dry thoroughly as DT-420 reacts unfavorably with moisture.
- Re-apply DT-420 to the surface as instructed above.

Additional Information

For more information on DT-420, reference the Tech Bulletins in our Downloads section of our website located at <https://www.dyna-tek.com/downloads/>

Note

The technical and application instructions herein are believed to be accurate and reliable. We do not assume the responsibility for the results obtained by others using methods we have no control. It is the user's responsibility to determine the merits and suitability of our products based on the different variables for the application; including any hazards potentially involved in the handling and use thereof. Dyna-Tek specifically disclaims any warranties, either expressed or implied from the use of our products.

Storage and Usage Warnings

Always make sure the container lids are securely tightened. Allowing the product to sit with the lid off while working will cause the solvents to evaporate thereby resulting in the product's solvent ratios falling out of compliance for it to work well.

If permissible, pour the needed material into a smaller container when working with it to avoid the coating in the primary storage container losing its solvents to evaporation. Never return the

unused portions back to the container. Always make sure the container lids are securely tightened. Allowing the product to sit with the lid off while working will cause the solvents to evaporate thereby resulting in the product's formulation falling out of compliance for it to work well.

This product is classified as a flammable and should be stored pursuant to the regulations in your area. Product should be stored at room temperatures, not to exceed 75° F. (24° C.)

Intellectual Rights

DT-420 and related products of coating compositions are covered under U.S. 9,856,400, U.S. 10,131,818, and U.S. 10,301,507. Other methods and products within this series are the subject of pending U.S. Patent Application No. 16/380,569 filed April 10, 2019.