

# DuPont™ DryFilm

## performance dispersions

## Processing Recommendations for DuPont™ DryFilm RA/W Dispersions

### Mixing

DuPont™ DryFilm RA/W dispersion settles to somewhat heavy, tacky solids. Therefore, careful handling and constant, low shear agitation are recommended to users of this product. High shear mixing can cause foaming and may even cause the solids to crash out of the dispersion. Before transferring material from the drum to a mixing tank, we recommend redispersing the drum by tumbling for several hours or by using a powerful, but low speed agitator that can be lowered into the drum.

Adequate mixing of the DuPont™ DryFilm RA/W dispersion in the applicator is also essential. The concept of continuous circulation with a pump should work as long as the circulation line is large enough. We recommend speaking with a vendor of positive displacement pumps to correctly size the pump for your process and to ensure that you have the best model for pumping a relatively high level of solids. To verify that there is adequate mixing in both the drum and the applicator, periodically sample and measure the weight percent solids.

Any local company that supplies industrial spray equipment or laboratory supplies is likely to have an air driven agitator that can both be mounted on a drum or on a bulk tank. Before purchasing any equipment, be sure that it is designed for water systems.

Graco makes at least two agitators that are compatible with water systems. Both are all stainless steel (SS) and fit on a 2" drum bung. Graco part 236 629 provides agitation and siphoning capability. Graco part 235 534 provides agitation. Most Devilbiss distributors also carry Graco products. You can call (800) DEV-4448 to find the Devilbiss distributor for your area.

Cole-Parmer offers both air driven and electric motors that can be mounted on a drum bung, drum lip, or externally mounted with a C-clamp. Call (800) 323-4340 for information on Cole-Parmer products.

### Application

DuPont™ DryFilm RA/W dispersion can be applied by dipping, brushing, or spraying onto a surface. For spray application, we recommend a nozzle that will give a mist spray. The nozzle should be small enough to atomize the DuPont™ DryFilm RA/W dispersion, but large enough to minimize plugging. The DuPont™ DryFilm RA/W dispersion particles may be as large as 35 µm. Periodically checking the nozzle to ensure it has not become partially plugged is advisable.

Specific recommendations for air and air-less spray equipment can be found in "Spray Equipment for Use with DuPont™ DryFilm RA/W Dispersions."

### Drying

DuPont™ DryFilm RA/W dispersion can be air dried; however, drying time can be reduced by using driers. We do not recommend a drier with a strong air flow, as this may blow the solids off the coated surface or cause them to pool on the surface. Optimum drying conditions could be achieved by running the wire through a heated pipe or heating mantel. The moist air could be removed by having several heated sections with breaks in between or by pulling a vacuum on the heated section. The required residence time to dry the material will depend on the temperature that is achieved. The most durable uniform coating will be achieved if the drier heats the surface to the melt temperature of DuPont™

DryFilm RA/W dispersion (300°C [572°F]). At this temperature, the residence time should be about 5 min. Excessive heating at the melt temperature will cause loss of DuPont™ DryFilm RA/W dispersion. Your ability to heat to this temperature will depend on the temperature rating of the surface to which the DuPont™ DryFilm RA/W dispersion has been applied. Also, to ensure worker safety, adequate ventilation is required if the DuPont™ DryFilm RA/W dispersion is heated above 200°C (392°F). Consult the MSDS “Safe Handling of Heated DuPont™ DryFilm RA/W Dispersions” for a summary of the health concerns related to heated DuPont™ DryFilm RA/W dispersions.

Wellman supplies radiant heaters that can be used to dry the DuPont™ DryFilm RA/W dispersion. The heater design depends on your process configuration and temperatures. For specific recommendations, contact Wellman at (800) 388-8456.

## Other

When using DuPont™ DryFilm RA/W dispersion on carbon steel parts or molds, it is recommended that the parts be heated to 66–177°C (150–350°F) before or after application of DuPont™ DryFilm RA/W dispersion. This will prevent rusting associated with the water in DuPont™ DryFilm RA/W dispersion. Corrosion inhibitors can also be used if heating is not possible. Consult our DuPont™ DryFilm RA/W dispersion hotline for technical information on corrosion inhibitors.

---

**For more information or technical assistance, call:**

**(800) 441-9503**

**or visit us on the Web:**

**[www.dupont.com/releasesystems](http://www.dupont.com/releasesystems)**

---

Or call the Coating & Release Systems hotline in the **United States** at (800) 441-9503

**Canada** at 800-263-5924, E-mail: [products@can.dupont.com](mailto:products@can.dupont.com)

**Europe, Mideast, and Africa** at +32.3.543.1267, E-mail: [lubricants@lux.dupont.com](mailto:lubricants@lux.dupont.com)

**Asia/Pacific—Including India** at 886-2-2514-4434, E-mail: [release.systems@usa.dupont.com](mailto:release.systems@usa.dupont.com)

**Mexico and Central America** at 011-52-55-5722-1150, E-mail: [ceac@mex.dupont.com](mailto:ceac@mex.dupont.com)

**South America—All Countries** at 55-11-4166-8601, E-mail: [produtos.brasil@bra.dupont.com](mailto:produtos.brasil@bra.dupont.com)

---

The information set forth herein is furnished free of charge and is based on technical data that DuPont believes to be reliable. It is intended for use by persons having technical skill and at their own discretion and risk. Because conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information. Nothing herein is to be taken as a license to operate under or a recommendation to infringe any patents.

The DuPont oval logo, DuPont™, and The miracles of science® are trademarks or registered trademarks of DuPont.

Copyright © 2002 E.I. du Pont de Nemours and Company. All rights reserved.

