



*Beyond The Surface*

## Information Sheet

### Importance of Reducers

Reducers are used to tune your finishing system to environmental conditions as well as to your equipment.

- Choose the speed of the reducer according to the current temperature and humidity.
- Because polyurethanes react with moisture, high humidity conditions can alter the properties of the final film.
- Application in cold temperatures may result in sagging or fat edges.
- Reduction is always based on the quantity of the first component and not the sum of the 2 components.
- Over reduction can result in lower film build and runs or sags in the finish.
- Insufficient reduction can result in orange peel, poor flow out and poor adhesion.
- Only use Milesi polyurethane reducers for thinning. Many similar solvents are not designed for the reduction of polyurethanes. The result can be unacceptable flow or leveling and other problems.
- Excessive use of slow thinners can increase sheen and increase susceptibility to dust entrapment while drying.
- Typically gloss finishes use a slower than normal thinner to promote flow out and increase sheen.

**Using a reducer that is too fast for conditions will result in:**

- Cloudy or hazy look. This is caused by the top layer of the coating drying before the solvents, atomizing air or moisture present in the atomizing air has a chance to escape. The haziness that you see is actually tiny bubbles of trapped air, solvent or water.
- Pin holes. They are the result of the top layer of the coating thickening up and losing its ability to flow back together after the solvent or atomizing air bubbles pop through the surface.
- Poor flow out and leveling. Orange peel is the typical result. Again, this is a result of the coating drying too fast for conditions or not enough reducer.

**Using a reducer that is too slow for conditions can result in:**

- Film that remains soft below the surface
- Loss of abrasion resistance
- Lingering odor
- Sticking or printing when parts are stacked
- A hazy look