Technical Bulletin

WRT Series

Water Reducible
Fluorescent Toners

WRT-Series toners represent a new, unique fluorescent color ink system, which, although delivered in dry form, is totally water reducible. With the addition of a small amount of ammonia and alcohol, but without other binder additives, a complete water ink system for flexographic and/or gravure inks can be formulated with incredible ease.

Water-based inks made from **WRT-Series** toners exhibit excellent film forming properties, color strength and high gloss. Lightfastness is superior to most solvent-based fluorescent flexographic inks. It exhibits excellent transparency making it the system of choice for printing on foil and film. This also makes it ideally suited for highlighter inks in felt tip markers. Because of these unique properties, **WRT-Series** toners give the ink maker an unexcelled flexibility, quality and value when formulating fluorescent water-based inks.

Available Colors:

Aurora Pink	WRT-11
Blaze Orange	WRT-15
Saturn Yellow	WRT-17
Corona Magenta	WRT-21

Typical Physical Properties:

Form	Granular powder
Average Particle Size	70-90 microns
Specific Gravity	1.2 g/ml
Bulk Value	0.6 g/ml

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Typical Formulations:

Water-based Flexographic Ink (30% solids)

Water	50.0
WRT-Series Toner	30.0
Isopropanol	16.0
Ammonium Hydroxide (28 Bé)	4.0
Total	100.0

Water-based Felt Tip Marker Ink

WRT-Series Ink (above)	40.0
Water	30.0
Propylene Glycol or PEG-200	30.0
Total	100.0

Mix well and adjust water/glycol ratio for the desired drying rate

Ink Manufacturing Procedure

1. Add the water to the mixing vessel.
2. Begin mixing at a low speed using a high speed disperser with a Cowles type blade.
3. Add the **WRT-Series** toner slowly to a controlled vortex.
4. Premix the isopropanol and ammonium hydroxide. (Aminomethylpropanol or triethanolamine can be substituted to alter the drying speed)
5. Add 1/3 of the alcohol/ammonia mixture to the slurried toner while slowly increasing the mixing speed to maintain a controlled vortex. Mix for 5 minutes.
6. Repeat step 5 until all of the alcohol/ammonia mixture has been added.
7. Adjust pH to 7.0-7.5.
8. Adjust viscosity as needed.

NOTE: Avoid excessive heat (above 120^{o}F) and pH that exceeds 7.5, as it can cause the color to shift.

STORAGE:

Dry **WRT-Series** toners should be stored in a sealed container, away from heat and humidity.

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