



Technical Bulletin

T/GT PIGMENTS

DayGlo® T/GT pigments are thermoset, fluorescent pigments that are recommended for applications where solvent resistance is required.

GT pigments have higher color strength than T pigments and are based on the same thermoset resin matrix. All are insoluble in a greater number of solvents than are DayGlo A/AX thermoplastic pigments. DayGlo T/GT pigments are designed to be used in formulations and coatings where strong solvents are used and where softening by heat and pressure may be a problem. They are also suitable for use in water based latex systems, where long-term shelf stability is required.

Available Colors:

<u>T/GT Colors*</u>	<u>T-series</u>	<u>GT-series</u>
Aurora Pink®	T-11	GT-11
Rocket Red™	T-13	GT-13
Fire Orange™	T-14	GT-14N
Blaze Orange™	T-15	GT-15N
Arc Yellow™	T-16	---
Saturn Yellow®	T-17N	GT-17N
Signal Green™	T-18N	---
Horizon Blue™	T-19	---
Corona Magenta™	---	GT-21

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Typical Physical Properties:

Specific Gravity	1.37
Hegman Grind	5.0 minimum
Average Particle Size	4.0-5.0 microns (by volume)
Decomposition Point	Approximately 195°C (383°F)
Oil Absorption (Raw X Linseed Oil)	51 lbs Oil / 100 lbs
Bulking Value	0.0875 gal / lb
General Solubility	Insoluble in water, hydrocarbons, and many common solvents

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Solvents:

T/GT pigments are substantially resistant to the following solvents and plasticizers.

AQUEOUS	KETONES
Water	Acetone
ALIPHATICS	Cyclohexanone
Heptane	Diacetone Alcohol
Lactol Spirits	Diisobutyl Ketone
Mineral Spirits	Ethyl Amyl Ketone
VM & P Naphtha	Isophorone
AROMATICS	Methyl Ethyl Ketone
Toluene	Methyl Isobutyl Ketone
SC #100 (KB Value 91)	HALOGENATED & MISC.
SC #3 (KB Value 72)	Carbon Disulfide
Xylene	Carbon Tetrachloride
ALCOHOLS	Trichloroethylene
Ethyl Alcohol	PLASTICIZERS
3-Heptanol	Diethyl Adipate
Isobutyl Alcohol	Diethyl Phthalate
Isopropyl Alcohol (99%)	Diethyl Sebacate
Methyl Alcohol	Paraplex G-50
GLYCOLS	Paraplex G-62
Diethylene Glycol	ESTERS
Ethylene Glycol	Butyl Acetate
Glycerine	DPM Acetate
Hexylene Glycol	Ethyl Acetate
Propylene Glycol	Isoamyl Acetate
	Isopropyl Acetate
	N-Propyl Acetate
	PM Acetate

Mixtures of some solvents may have a more severe effect on T/GT pigments than the individual solvents alone. An example of such a mixture is equal parts of methyl ethyl ketone and ethyl acetate. This mixture, will partially solvate the pigments producing some bleed and swelling of the pigment. Each solvent alone will not.

It is impossible to completely evaluate the effect of all solvents and mixtures of solvents on the T/GT pigments. They should be tested for satisfactory performance in the system in which they are intended to be used.

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Dispersion & Use:

Being organic in nature, the pigments are, in most cases, easily wet out and dispersed in solvent-based vehicles or liquid resins by intensive stirring (Cowles Dissolver). Formulations produced by such means give Hegman Gauge readings of 4.5 to 5.0 for application by spray, brush and roll, or knife coating. If finer particle sizes are required, T/GT pigments can be wet ground in suitable formulations by wet milling.

The fact that T/GT pigments are based on a thermoset resin permits them to be used in various coatings or inks made with nitrocellulose, polyvinyl chloride-acetate, polyamide, acrylic, chlorinated rubber and other resins which require strong oxygenated types of solvents such as aromatics, alcohols, esters or ketones. Combinations of these solvents should be evaluated before use.

Color bleed may be a problem in some instances, usually with the red colors. It can occur even though the pigment resin matrix is thermoset and insoluble, and the fluorescent dye is in solid solution throughout the pigment particles and not merely absorbed on the surface. Some solvents leach enough dye from the insoluble particles so that color transfer may be noticeable when the coating surface involved contains significant amounts of plasticizers.

T/GT pigments are suitable for paper coating applications, either solvent or water latex based. Since the pigments are not softened by heat or pressure, the coated paper can be calendared without glazing or sticking to the rolls.

The following formulae are suggested as a starting point for using T/GT pigments:

Aerosol Concentrate

	Parts by Weight
Acryloid F-10 ¹	44.6
Post 4 ²	1.2
DayGlo T/GT pigment	34.8
Lactol Spirits	17.6
Toluene	<u>1.8</u>
	100.0

C-Type Gravure Ink

Parts by Weight

DayGlo T/GT pigment	40.0
RS Nitrocellulose 30-35 Sec. (70% in Toluol)	11.0
Hercolyn D ³	5.0
S-395-N5 Wax ⁴	2.0
Isopropyl Acetate	21.0
Toluene	<u>21.0</u>
	100.0

¹Dow

²Elementis Specialties

³Pinova Solutions

⁴Shamrock Technologies

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