Dispense Process Considerations

In general, Dymax materials are relatively simple to dispense. They typically have a one-year shelf life at room temperature and are not sensitive to humidity or oxygen (except for activators). There are no pot life considerations since there is no mixing required. Dymax materials contain no solvents (except for some activators) and so are not subject to evaporation concerns. There are, however, a few guidelines to consider when selecting and setting up a system for dispensing a Dymax material. The following guidelines will help ensure a stable, consistent dispensing process.

Utilize Opaque Dispensing Needles and Fluid Lines

It is important that 100% light-blocking (not just UV-blocking) dispensing needles and fluid lines are used when dispensing visible light-curable materials.

Ensure Compatible Wetted Components

Dymax materials are readily dispensed through a wide variety of commercially available valves and pressure pots. When selecting a dispensing system, make sure that wetted components are compatible with Dymax materials. Incompatible wetted components can be attacked by Dymax materials or cause them to cure prematurely in dispensing equipment.

KNOWN COMPATIBLE MATERIALS	KNOWN INCOMPATIBLE MATERIALS
Acetels	Aluminum
Stainless Steel (300 series)	Brass
Hard Chrome	Bronze
HDPE, HDPP* (opaque)	Cast Iron
Nylon (pure)	Copper
Silicone (opaque)	Magnetic Stainless Steel (400 series)
PTFE (opaque)	Mild Steel
	N-Butyl “O” Rings
	Polyurethane
	Polycarbonate
	PVC
	Zinc

Avoid High Shear Valves and Pumps

Some Dymax materials are shear sensitive, meaning that high shear can initiate polymerization (curing). Shear occurs when material is caught between two tightly fitting moving metal parts. Dymax, therefore, does not recommend the use of pumps that cause high shear such as gear pumps (simple pressure pot, pneumatic systems, or ram-style pail pumps are typically adequate). Dymax does not recommend positive displacement dispensing valves unless testing shows they are compatible with the specific Dymax material involved. Contact Dymax Application Engineering for further guidance in selecting an appropriate dispensing system.

Utilize "Yellow Lights" (If Necessary)

Some application techniques (i.e roll coating and stencil/screen printing) require prolonged exposure to ambient lighting. Given enough time, standard fluorescent and incandescent lighting can initiate polymerization (curing) of some Dymax materials, particularly Ultra Light-Weld®. Special "yellow lighting" is available that will prevent this premature polymerization.

Retrofit Lamps Available for EXISTING Fluorescent and Incandescent Fixtures:

LAMP TYPE	MFG.	MODEL #	CONFIGURATION
Fluorescent	Philips	F40GO	T-12 Bi Pin, 4'
Fluorescent	Philips	F48T12GO	T-12 Single Pin 4'
Fluorescent	Philips	F96T12GO	T-12 Single Pin 8'
Fluorescent	Philips	F96T12GO/HO	T-12 Dual Pin Raised Oval 8'
Fluorescent	GE	F32T8GO/CVG	T-8 Bi Pin, 4'
Incandescent	Sylvania	Bug Foiler, 60 Watt	Medium base

The Following Complete Light Fixture is Recommended for NEW or RETROFIT Installations:

Holophane Model # EN250HPXXP7

Type: High-pressure sodium, high bay

Holophane Fixture Notes:

1. XX denotes voltage (to be specified by customer).
2. Because the main fixture normally takes up to 5 minutes to restart, an available quartz restrike option allows instant "walk around" lighting in the event of a temporary power failure. For this option, add suffix "EM".
3. Substitute LHP for HP in model number if energy-saving ballast is desired.
4. For hook, cord, and plug option, add Suffix #CDP-LX-15-3-PF121. No suffix denotes standard hard-wire configuration.

5. Lamp Type: General Electric # GLU250/D (Maximum wattage for this application is 250. Higher wattages have not been tested).

6. Holophane Factory Contact: Tom Quigley - Phone (860) 621-9136.

Blanket Oxygen-Sensitive Materials with Inert Gas – Activator Formulas Only

Some Dymax activators are sensitive to oxygen in the uncured state. Prolonged exposure to oxygen can cause Dymax activators to become less reactive. To avoid these effects, these types of materials should be stored in glass or metal containers and blanketed with inert gas (i.e. nitrogen or argon) when re-sealed. Also, pressure pots containing these materials should be pressurized with an inert gas, not air.

Blanket Moisture-Sensitive Materials with Inert Gas

Dymax Dual-Cure systems are sensitive to moisture in the uncured state. Prolonged exposure to moisture can cause Dymax Dual-Cure systems to polymerize. To avoid these effects, the materials should be stored in their original packaging or metal containers and blanketed with inert gas (i.e. nitrogen or argon) when re-sealed. Also, pressure pots containing these materials should be pressurized with an inert gas or dry air.

Depressurize Reservoirs When Not in Use

Dymax adhesives, maskants, and coatings may be subject to changes when left under pressure for extended lengths of time. For this reason, Dymax strongly recommends removing the pressure from any syringe, cartridge, bottle, or pail when not in use, including at the end of the daily shift, overnight, weekends, shutdowns, and storage. The type of change and the rate of change vary between products and package sizes. Changes may include microbubble formation, separation/syneresis, changes in viscosity, and/or gelation of the product.

Ensure Solvents Used for Clean Up and Purging Fluid Lines Do Not Contain Moisture:

Cleaning Dymax Dual-Cure systems in the uncured state is relatively simple as the material will dissolve in non-alcoholic solvents. Alcoholic solvents that contain moisture activate the curing process. Therefore, it is recommended that non-alcohols be used to clean up uncured material and purge wetted dispensing lines.

COMMON NON-ALCOHOLIC SOLVENTS	COMMON ALCOHOLIC SOLVENTS
Butyl Acetate	Propylene Glycol Monomethyl Ether (PM)
Acetone	2-Butoxyethanol
Methyl Ethyl Ketone (MEK)	Isopropyl Alcohol (IPA)
PM Acetate	Ethanol
2-Butoxyethyl Acetate	Methanol