Dymax Hybrid Light-Curable Material Best Practices for Bottle Dispensing

Container Storage and Shelf Life

Unopened

- Temperature range: 2°C (35°F) – 8°C (46°F)
- Storage above or below is not recommended and may affect material properties.
- Unopened shelf life from date of manufacture is 6 months.

Before Opening for Use

- Allow material to come to room temperature (20 – 60 minutes).

Once Opened

- Temperature range: 10°C (50°F) – 21°C (70°F)
    - Container should be closed and stored in a dark, low humidity environment when not in use.
    - Returning to refrigeration is not recommended.
- Shelf life is dependent on several factors and is not guaranteed.
- Material removed from the original container may be contaminated and should not be returned to the original container.
- Customer confirmation & validation of product performance is required for opened material.

General Usage Considerations

Workstation Considerations

- Utilize PPE (personal protective equipment), including nitrile gloves, safety glasses, and ventilation.
- Exposure to light (ambient and artificial) and moisture should be kept to a minimum before cure.
- An air exhaust system is recommended to dissipate heat and vapors formed during cure. Cooling fans can also be placed to reduce the heating effect on components.

Performance Considerations

- Parts should be tested at different post-cure intervals to validate performance in process. This should include both UV / Visible light cure as well as contact cure.
- In rare cases, stress cracking may occur in assembled parts and can be addressed by:
    - Heat annealing of the parts to remove molded-in stresses.
    - Opening the gap between mating parts to reduce stress caused by an interference fit.
    - Minimizing the time the liquid adhesive remains in contact with the substrate(s) prior to light curing.

Dispensing Considerations

Cleaning & Purging

- Fresh acetone or similar aprotic solvents should be used for cleaning / purging dispensing equipment.
    - Note: a flush with acetone before priming the dispense system is recommended.
    - Alcohol-based solvents are more likely to react the material within the dispense system.
- See table below for known compatible solvents.
- Higher purity grades are always recommended to reduce the risk of interaction with contaminants.

✓ Polar Aprotic Solvents	X Polar Protic Solvents
Acetone	Acetic Acid
Butyl Acetate	Ammonia
Dimethyl Sulfoxide (DMSO)	Ethanol
Ethyl Acetate	Formic Acid
Hydroxymethylfurfural (HMF)	Hydrogen Fluoride
Methyl Ethyl Ketone (MEK)	Isopropyl Alcohol (IPA)
N,N-dimethylformamide (DMF)	Methanol
Propylene Glycol Monomethyl Ether Acetate (PM Acetate)	Water

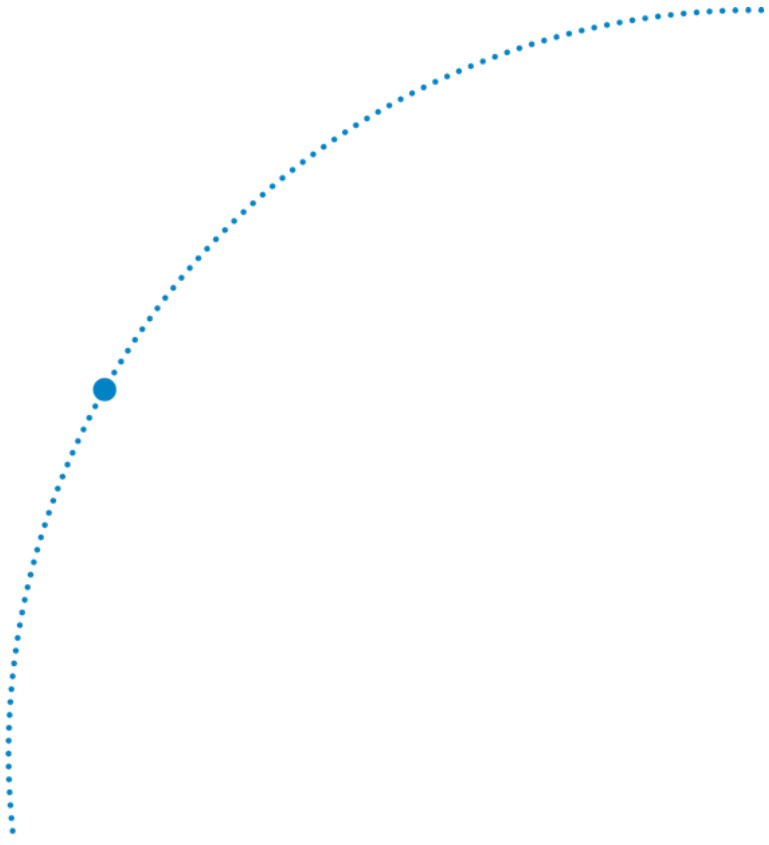
Pressurized Dispense Systems

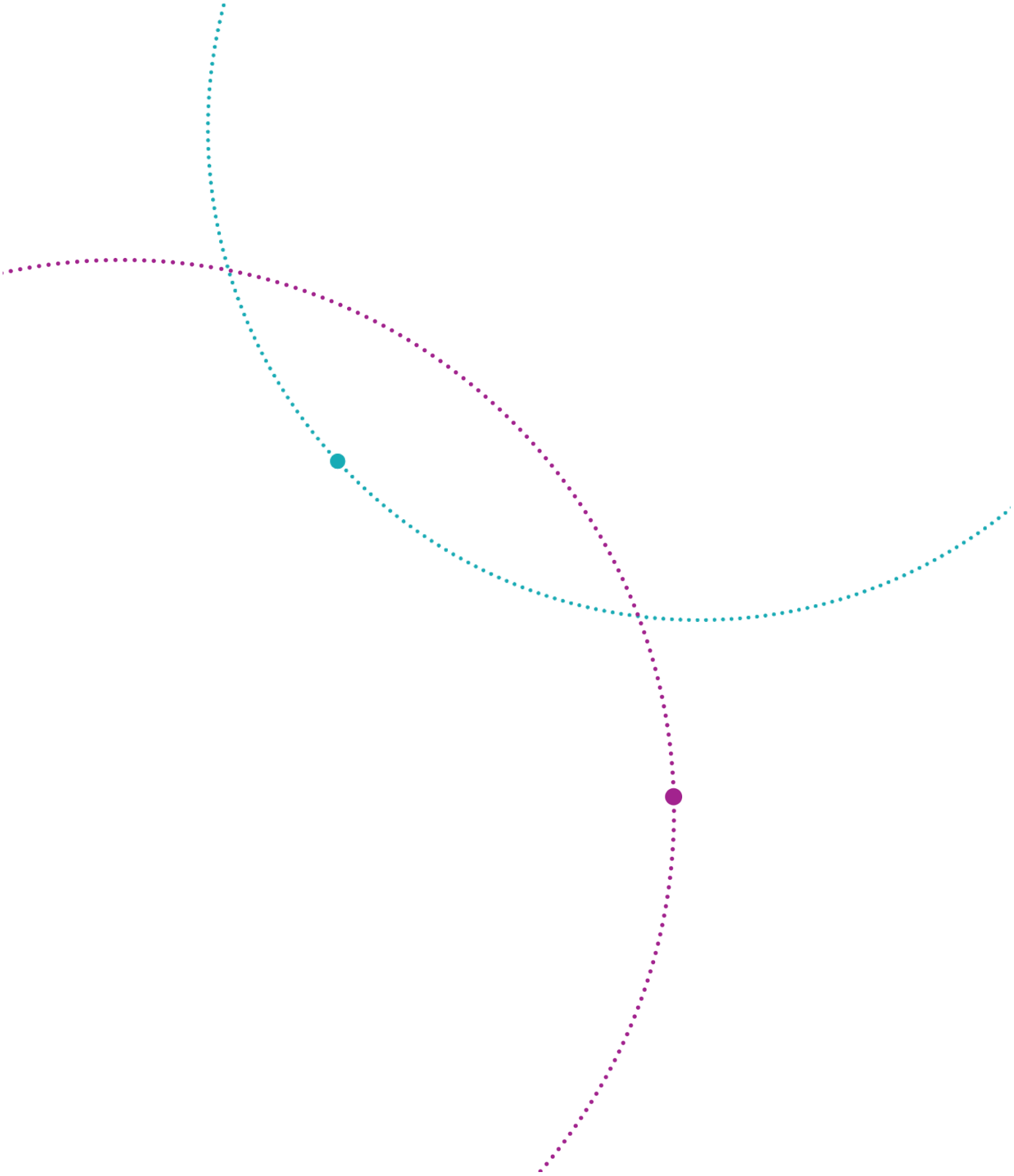
- Use of nitrogen or dry compressed air is recommended to eliminate moisture in pressurized dispense systems.

Dispensing Components

- Use compatible components and tubing for all wetted parts in direct contact with the liquid adhesive.
- Passivated stainless steel can be used in place of any metal components in direct contact.
- All dispensing components should be evaluated for moisture permeability as well as UV & visible light blocking.
- See table below for known compatible dispense system components.

✓ Known Compatible Materials	X Known Incompatible Materials	
HDPE - High Density Polyethylene	Acetals	Mild Steel
HDPP - High Density Polypropylene	Aluminum	N-Butyl “O” Rings
Fluorinated Ethylene Propylene (FEP) Coated Gaskets	Brass	Non-Passivated Stainless Steel
Passivated Stainless Steel	Bronze	Nylon
PTFE – Polytetrafluoroethylene	Cast Iron	Polycarbonate
	Copper	Polyurethane
	Glass	PVC
	Hard Chrome	Silicone
	Magnetic Stainless Steel	Zinc





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