

Light-Curable Form-In-Place and Cure-In-Place Gaskets

Ready to Use in Seconds!

DYMAX FIP/CIP gaskets cure completely in seconds - even in ¼"-thick beads. **No more racking, stacking, waiting, and un-racking as required with traditional FIP gaskets.** DYMAX light-curable FIP/CIP gaskets offer the ultimate in gasket design flexibility. Designed for flat flanges or wide shallow grooves, permanent FIP/CIP gaskets can eliminate the delay experienced with slow-curing resins, as well as the design, inventory, and labor expense associated with pre-cut gaskets. DYMAX gaskets cure faster and deeper than UV silicone, and do not release corrosive chemical by-products upon cure.

DISPENSE AND CURE! ASSEMBLE IN SECONDS! LOWER PROCESSING COSTS!

FIP/CIP gaskets have fast cure, low compression set, and a wide range of properties which makes them the lowest per-unit cost choice for many gasket applications.



Dispensing gasket bead onto appliance handle

Some Uses for FIP/CIP Gaskets:

- Sound dampening
- Vibration dampening
- Non-skid surfaces
- Chemical, moisture, and air sealant

Some Applications for FIP/CIP Gaskets:

- Automotive wheel covers and door handles
- Mobile cell phones
- Fuel cells
- Automotive and appliance casings
- Critical electronic assemblies
- Electrical conduit boxes
- Speaker assemblies
- HVAC sealant
- Filters

Features	Benefits
Bead Completely Cures in Seconds	- Productivity – assemble and test immediately - Eliminates ovens, racking, stacking, and slow cure cycles - Reduces footprint of in-process parts
One-Part System	Eliminates meter mixing, purge, and waste resin
Form-In-Place and Cure-In-Place	Eliminates the design and inventory cost of pre-cut gaskets
Low Compression Set	Re-sealable
Surface Tack	From slick to pressure-sensitive feel
Adhesion	Excellent adhesion to plastics, glass, and metals
Depth of Cure	Thin or thick gaskets (3 mils to over ¼")
Viscosity Range	Low viscosity to non-flowing gels

Form-In-Place and Cure-In-Place Gasket Selector Guide

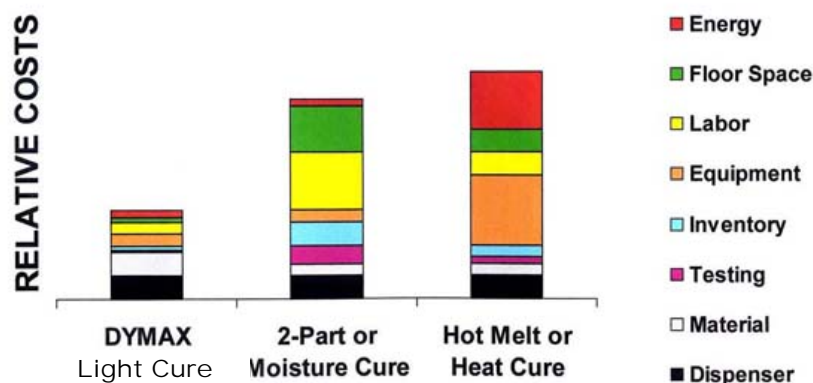
DYMAX FIP/CIP gaskets are for sealing against atmospheric moisture, debris, and other contaminants. Resistance against moisture and chemicals will depend upon temperature, the length of exposure, and the geometry of the part. Service life and suitability must be determined by the user for each application.

Product	GA-103	GA-105	GA-108	GA-111	GA-120	GA-140
Properties	<ul style="list-style-type: none"> Resistant to water, acid bases Within product line, most chlorine & highest temperature resistance Self-leveling fluid 	<ul style="list-style-type: none"> Soft, sticky gasket Good adhesion 	<ul style="list-style-type: none"> Softest gasket with greatest deflection Appears black on black or clear on metal Cures soft & sticky Very good adhesion to nylon, electro-plated nickel, other plastics, & metals 	<ul style="list-style-type: none"> Moisture resistant sealing Excellent tear resistance Cures soft & tack free Low out-gassing Cures in seconds Silicone free Solvent free Black in appearance 	<ul style="list-style-type: none"> Soft, tacky gasket Self-leveling viscosity Low-durometer resin Cures in seconds Silicone free Solvent free 	<ul style="list-style-type: none"> Low out-gassing Cures soft & tack free in seconds Silicone free Conforms to intricate channels or recesses Excellent tear resistance Clear in color Solvent free
Applications	<ul style="list-style-type: none"> Fuel cells Underwater enclosures High temperature sealing 	<ul style="list-style-type: none"> Automotive & appliance casings 	<ul style="list-style-type: none"> Automotive door Handles Appliance casings & housings where gasket must seal largest part misfit with minimal force and resin 	<ul style="list-style-type: none"> Appliance housings Critical electronic assemblies & devices Electrical conduit boxes 	<ul style="list-style-type: none"> Speaker assembly Sound dampening Automotive enclosures 	<ul style="list-style-type: none"> Fuel cells Automotive door handles Appliance housings Critical Electronic assemblies & devices
Durometer Hardness	00-75	A40	00-30	A40	00-50	A35
Compression Set* (after 85°C, 22 hr)	<5%	5%	10%	Pending	Pending	Pending
Elongation at Break, %	67	140	200	140	110	167
Water Absorption, % (25°C, 24 hr)	0.2	8.0	1.9	1.4	3.4	1.0
Viscosity, cP (20 rpm)	60,000	40,000	45,000	40,000	1,000	39,000
Cure Rate: (minimum 150 mW/cm ²)	10 s	10 s	30 s	15 s	7 s	10 s

*Compression set is expressed as a percentage of deflection per ASTM D-395, Method B at 25% at 85°C for 22 hours.

To determine percent recovery, subtract ¼ of the set value from 100%. For example, in the case of 10% compression set, recovery is 97.5%.

Relative Manufacturing Costs of Three FIP Methods



The chart at left illustrates some of the manufacturing cost savings associated with using DYMAX Form-In-Place and Cure-In-Place gasket materials over traditional Form-In-Place

Design Recommendations for FIP/CIP Gaskets

FIP/CIP gaskets are designed for use on flanges or in wide, shallow grooves. Deep channels typically requiring o-rings are not recommended because such channels use more resin and are difficult to fill and seal. Sharp channel edges can add stress that may shorten gasket life. Diagrams show that FIP/CIP gaskets are not recommended in deep grooves having height-to-width ratios of 1:1 or more. In grooved situations, avoid sharp edges that could cut into gaskets and damage the seal.

Recommended Interfaces for FIP/CIP Applications (flanges and shallow grooves)

A & B designs form excellent, durable seals and are ideal for use with fast-curing, cost-effective UV resins.

Diagram A:
FIP/CIP Gasket

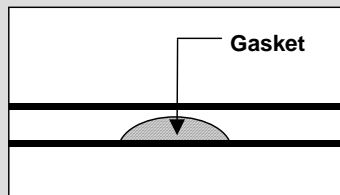
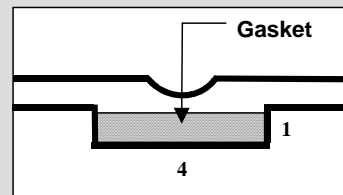


Diagram B:
FIP/CIP Gasket
Height-to-width ratio near
1:4 preferred



Interfaces Not Recommended for FIP/CIP (deep and narrow grooves)

C & D are not the optimum designs for FIP/CIP gaskets.
Sharp edges may damage the FIP/CIP gaskets.

Diagram C:
"O" Ring
Height-to-width ratio 1:1

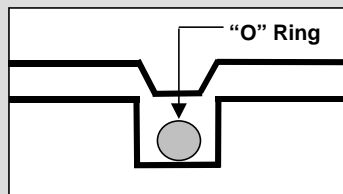
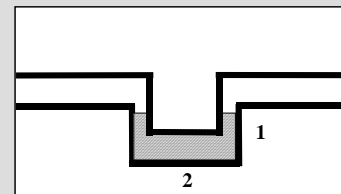


Diagram D:
FIP/CIP Gasket



Appliance Casing FIP/CIP Gasket



Cell Phone FIP/CIP Gasket



Door Handle FIP/CIP Gasket

Light-Curing Systems

Dramatically reduce your manufacturing costs and increase throughput with UV-curing systems from DYMAX that cure UV adhesives and UV coatings in seconds. UV-curing flood lamps, spot-curing lamps, and UV conveyors can be integrated into existing manufacturing assembly lines or used as stand-alone, bench-top curing systems. DYMAX UV-curing lamps provide clean, worker-friendly cures and are ideal for industrial UV bonding, coating, encapsulating, potting, and sealing applications. UV-curing systems are used worldwide throughout the automotive, electronic, industrial, medical, and optical industries.



5000-EC UV Light-Curing Flood Lamp System

High-Intensity Flood Curing System
Shown with ZIP™ Shutter and Lightshield
5" x 5" Cure Area



BlueWave® 200 UV Light-Curing Spot Lamp

High-Intensity Spot-Curing Lamp
Shown with Four-Pole Liquid Lightguide



UVC Series UV-Curing Conveyor System

High-Intensity UV-Curing Oven
Shown with 5000-EC Flood Lamps

For further assistance with adhesive and equipment selection, contact your DYMAX Applications Engineer.



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