

# 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

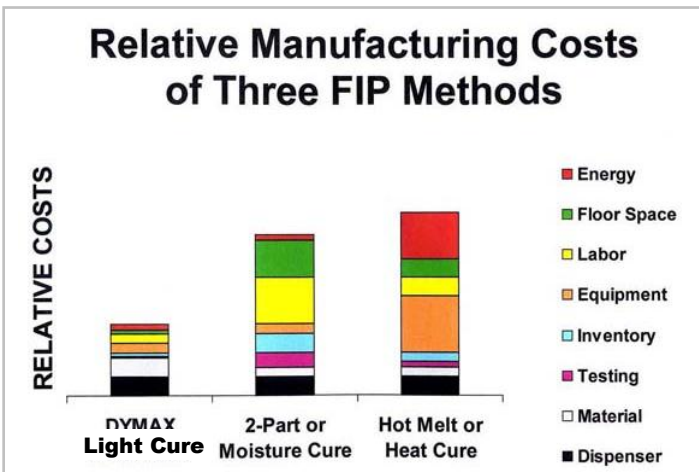
Features	Benefits
Bead Completely Cures in Seconds	- Productivity – assemble and test immediately - Eliminates ovens, racking, stacking, and slow cure cycles - Reduces footprint of in-process parts
One-Part System	Eliminates meter mixing, purge, and waste resin
Form-In-Place and Cure-In-Place	Eliminates 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-112	GA-120	GA-140	GA-142
<b>Properties</b>	<ul style="list-style-type: none"> <li>Resistant to water, acid bases</li> <li>Within product line, most chlorine &amp; highest temperature resistance</li> <li>Self-leveling fluid</li> </ul>	<ul style="list-style-type: none"> <li>Soft, sticky gasket</li> <li>Good adhesion</li> </ul>	<ul style="list-style-type: none"> <li>Softest gasket with greatest deflection</li> <li>Appears black on black or clear on metal</li> <li>Cures soft &amp; sticky</li> <li>Very good adhesion to nylon, other plastics, electro-plated nickel, &amp; metals</li> </ul>	<ul style="list-style-type: none"> <li>Moisture-resistant sealing</li> <li>Excellent tear resistance</li> <li>Cures soft &amp; tack free</li> <li>Low outgassing</li> <li>Cures in seconds</li> <li>Silicone &amp; Solvent free</li> <li>Black in appearance</li> </ul>	<ul style="list-style-type: none"> <li>Soft, tacky gasket</li> <li>Self-leveling viscosity</li> <li>Low-durometer resin</li> <li>Cures in seconds</li> <li>Silicone &amp; Solvent free</li> </ul>	<ul style="list-style-type: none"> <li>Low outgassing</li> <li>Cures soft &amp; tack free in seconds</li> <li>Solvent &amp; Silicone free</li> <li>Conforms to intricate channels or recesses</li> <li>Excellent tear resistance</li> <li>Clear in color</li> </ul>	<ul style="list-style-type: none"> <li>Soft, tacky cure in seconds</li> <li>Good adhesion to nylon and metal</li> <li>Silicone free</li> </ul>
<b>Applications</b>	<ul style="list-style-type: none"> <li>Fuel cells</li> <li>Underwater enclosures</li> <li>High-temperature sealing</li> </ul>	<ul style="list-style-type: none"> <li>Automotive &amp; appliance castings</li> </ul>	<ul style="list-style-type: none"> <li>Automotive door handles</li> <li>Appliance castings &amp; housings where the gasket must seal the largest part misfit with minimal force and resin</li> </ul>	<ul style="list-style-type: none"> <li>Appliance housings</li> <li>Electrical conduit boxes</li> <li>Critical electronic assemblies &amp; devices</li> </ul>	<ul style="list-style-type: none"> <li>Speaker assembly</li> <li>Sound dampening</li> <li>Automotive enclosures</li> </ul>	<ul style="list-style-type: none"> <li>Fuel cells</li> <li>Automotive enclosures &amp; door handles</li> <li>Appliance housings</li> <li>Critical electrical assemblies &amp; devices</li> </ul>	<ul style="list-style-type: none"> <li>Speaker assembly</li> <li>Electrical &amp; automotive enclosures</li> <li>Appliance coatings</li> <li>Automotive door handles</li> <li>HVAC ductwork</li> </ul>
<b>Durometer Hardness</b>	00-75	A40	00-30	A50	00-50	A35	00-50
<b>Compression Set*</b> (after 85°C, 22 hr)	<5%	5%	10%	15%	0.17%	14.9%	31%
<b>Elongation at Break, %</b>	67	140	200	360	110	167	330
<b>Water Absorption, %</b> (25°C, 24 hr)	0.2	8.0	1.9	1.3	3.4	1.0	4.4
<b>Viscosity, cP (20 rpm)</b>	60,000	40,000	45,000	40,000	1,000	39,000	39,000
<b>Cure Rate:</b> (minimum 150 mW/cm <sup>2</sup> )	10 s	10 s	30 s	15 s	7 s	10 s	4 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%.



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

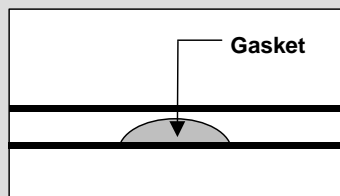
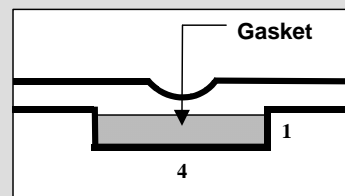


Diagram B:  
FIP/CIP Gasket  
Height-to-width ratio near  
1:4 preferred



## 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

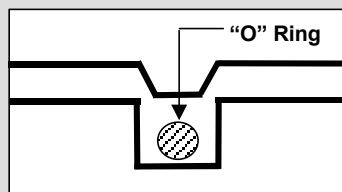
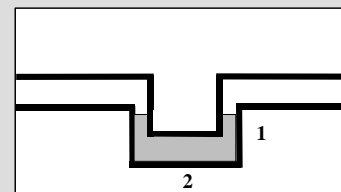


Diagram D:  
FIP/CIP Gasket



Appliance Casing FIP/CIP Gasket



Cell Phone FIP/CIP Gasket



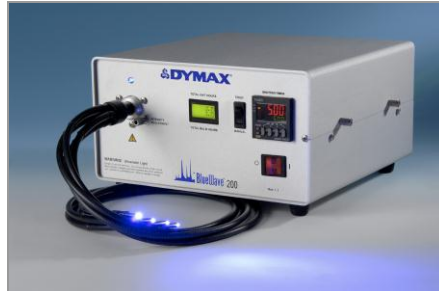
Door Handle FIP/CIP Gasket

# 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

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DYMAX Corporation  
860.482.1010  
info@dymax.com  
[www.dymax.com](http://www.dymax.com)

DYMAX Europe GmbH  
+49 (0) 611.962.7900  
info\_de@dymax.com  
[www.dymax.de](http://www.dymax.de)

DYMAX UV Adhesives &  
Equipment (Shenzhen) Co Ltd  
+86.755.83485759  
dymaxasia@dymax.com  
[www.dymax.com.cn](http://www.dymax.com.cn)

DYMAX Asia (Hong Kong) Ltd  
+852.2460.7038  
dymaxasia@dymax.com  
[www.dymax.com.cn](http://www.dymax.com.cn)

DYMAX Korea LLC  
82.2.784.3434  
info@dymax.kr  
[www.dymax.co.kr](http://www.dymax.co.kr)

