

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 6 mm 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
- Cell phones and automotive door handles
- Plating baths, fuel cells and filters
- Automotive and appliance casings
- Critical electronic assemblies
- Electrical conduit boxes
- Speaker assemblies
- HVAC sealant

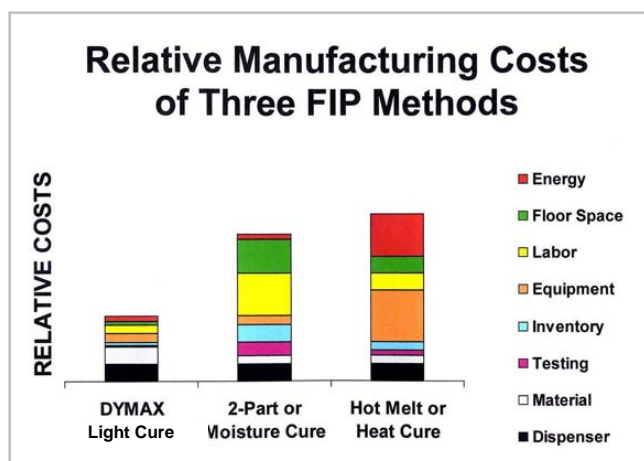
Features	Benefits
Bead Completely Cures in Seconds	- Productivity – assemble and test immediately - Eliminates ovens, racking, stacking, and slow cure cycles - Reduces footprint of in-process parts
One-Part System	Eliminates meter mixing, purge, and waste resin
Form-In-Place and Cure-In-Place	Eliminates 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 (0,75 mm to over 6 mm)
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-107	GA-108	GA-111	GA-120	GA-140
Properties	Resistant to water, acid bases; within product line, most chlorine and highest temperature resistance; self-leveling fluid	Soft, sticky gasket; good adhesion	Softest, tack-free gasket; appears black on black or clear on metal	Softest gasket with greatest deflection; appears black on black or clear on metal; cures soft and sticky; very good adhesion to nylon, electroplated nickel, other plastics, and metals	Moisture - resistant sealing; excellent tear resistance; cures soft and tack free; low out-gassing; cures in seconds; silicone free; solvent free; black in appearance	Soft, tacky gasket; self-leveling viscosity; low-durometer resin; cures in seconds; silicone free; solvent free	Low out-gassing; cures soft and tack free in seconds; silicone free; conforms to intricate channels or recesses; excellent tear resistance; clear in color; solvent free; See-Cure and Ultra-Red™ versions available
Applications	Fuel cells, underwater enclosures, high-temperature sealing	Automotive and appliance casings	Cell phones and automotive door handles	Automotive door handles, appliance casings and housings where gasket must seal largest part misfit with minimal force and resin	Appliance housings, critical electronic assemblies and devices, electrical conduit boxes	Speaker assembly, sound dampening, automotive enclosures	Fuel cells, automotive door handles, appliance housings, critical electronic assemblies and devices
Durometer Hardness	00-75	A40	00-80	00-30	A40	00-50	A35
Compression Set* (after 85°C, 22 hr)	<5%	5%	5%	10%	Pending	Pending	Pending
Elongation at Break, %	67	140	250	200	140	110	167
Water Absorption, % (25°C, 24 hr)	0.2	8.0	2.8	1.9	1.4	3.4	1.0
Viscosity, mPas (20 rpm)	60,000	40,000	100,000	45,000	40,000	1,000	39,000
Cure Rate: (minimum 150mW/cm ²)	10 s	10 s	7 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%.



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 gasketing methods.

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

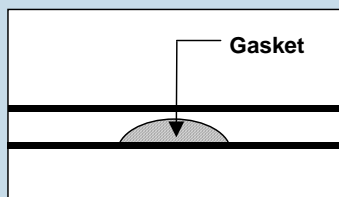
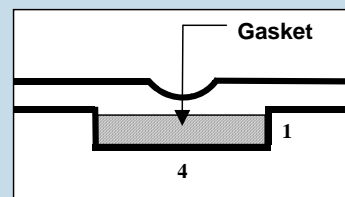


Diagram B:
FIP/CIP Gasket
Height to width ratio near
1:4 preferred



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

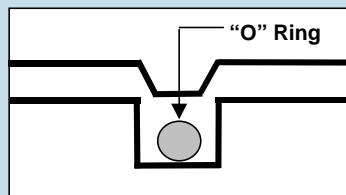
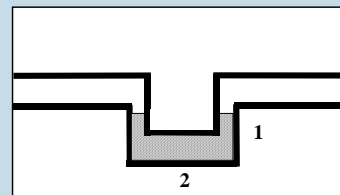


Diagram D:
FIP/CIP Gasket



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-PC UV Light-Curing
Flood Lamp System**

High-Intensity Flood Curing System
Shown with ZIP™ Shutter and Lightshield
127 mm x 127 mm 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

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



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