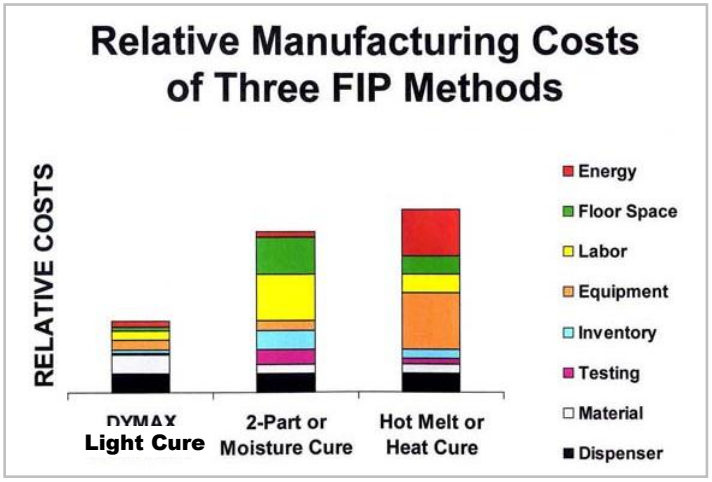
Form-In-Place and Cure-In-Place Gasket Selector Guide

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
Properties	▪ Resistant to water, acid bases ▪ Within product line, most chlorine & highest temperature resistance ▪ Self-leveling fluid	▪ Soft, sticky gasket ▪ Good adhesion	▪ Softest gasket with greatest deflection ▪ Appears black on black or clear on metal ▪ Cures soft & sticky ▪ Very good adhesion to nylon, other plastics, electro-plated nickel, & metals	▪ Moisture-resistant sealing ▪ Excellent tear resistance ▪ Cures soft & tack free ▪ Low outgassing ▪ Cures in seconds ▪ Silicone & Solvent free ▪ Black in appearance	▪ Soft, tacky gasket ▪ Self-leveling viscosity ▪ Low-durometer resin ▪ Cures in seconds ▪ Silicone & Solvent free	▪ Low outgassing ▪ Cures soft & tack free in seconds ▪ Solvent & Silicone free ▪ Conforms to intricate channels or recesses ▪ Excellent tear resistance ▪ Clear in color	▪ Soft, tacky cure in seconds ▪ Good adhesion to nylon and metal ▪ Silicone free
Applications	- Fuel cells - Underwater enclosures - High-temperature sealing	-Automotive & appliance castings	- Automotive door handles - Appliance castings & housings where the gasket must seal the largest part misfit with minimal force and resin	- Appliance housings - Electrical conduit boxes - Critical electronic assemblies & devices	- Speaker assembly - Sound dampening - Automotive enclosures	- Fuel cells - Automotive enclosures & door handles - Appliance housings - Critical electrical assemblies & devices	- Speaker assembly - Electrical & automotive enclosures - Appliance coatings - Automotive door handles - HVAC ductwork
Durometer Hardness	00-75	A40	00-30	A50	00-50	A35	00-50
Compression Set* (after 85°C, 22 hr)	<5%	5%	10%	15%	0.17%	14.9%	31%
Elongation at Break, %	67	140	200	360	110	167	330
Water Absorption, % (25°C, 24 hr)	0.2	8.0	1.9	1.3	3.4	1.0	4.4
Viscosity, cP (20 rpm)	60,000	40,000	45,000	40,000	1,000	39,000	39,000
Cure Rate: (minimum 150 mW/cm^2)	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 gasketing

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

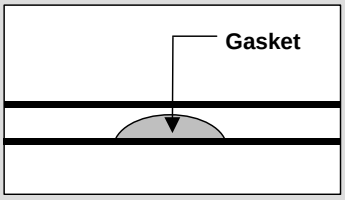
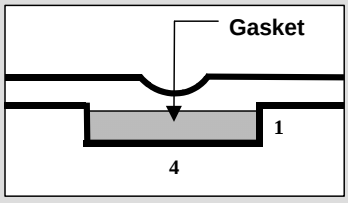


Diagram B:
FIP/CIP Gasket
Height-to-width ratio near 1:4 preferred



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

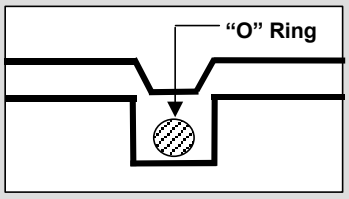
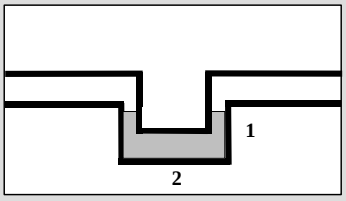


Diagram D:
FIP/CIP Gasket



Appliance Casing FIP/CIP Gasket

Cell Phone FIP/CIP Gasket

Door Handle FIP/CIP Gasket