

TECHNICAL ASSISTANCE BULLETIN

TOPIC: HIGH PRESSURE PROCESSING

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Purpose

This bulletin provides a brief overview of High-Pressure Processing (HPP) and the Silgan Closure and bottle combination that can be used in this application.

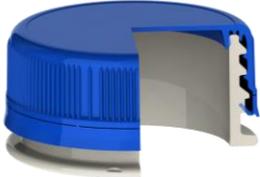
Definition

HPP is defined as a cold pasteurization process of sealed products introduced into a vessel, submerged in cool, potable water 38-50°F (4-10°C) and subjected to a high level of isostatic pressure for a period of time. This pressure may be as high as 87,000psi (600MPa) and the time may be up to 6 minutes. The pressure, transmitted uniformly, disrupts the microbial biochemistry of spoilage causing microorganisms and bacteria thus extending the shelf life of the refrigerated product while keeping the original qualities of the product intact.

Approved Closures

The following list of closures, and their associated bottle finish, have been tested and are approved for use with this type of processing. The testing was completed using 87,000psi (600MPa) held for 5 minutes at 38°F (4°C) water. The headspace of the containers was 2.5% by volume. Bottle body geometry plays an important role in package performance during HPP, and any new bottle and closure combination should be tested prior to commercialization.

Size	Type	Closure Material	Bottle Finish Tested	Seal Type	Sample
33mm	ACL	PE	427-282N-00 (0.049" E Wall)	Plug (Linerless)	
	HCL	PE	427-281P (0.060" E Wall)	Plug (Linerless)	
	VEJ	PP	427-067P (0.083" E Wall)	TPE Liner	
38mm	CEJ*	PE	N439116-047 (0.047" E Wall)	Plug (Linerless)	
	DBF	PE	N358015 (0.060" E Wall) N358023 (Spin Trim Finish)	Induction Foil	
	DBJ	PE	N358015 (0.060" E Wall)	Plug (Linerless)	

	GLA	PE	N439115 (0.063" E Wall)	Plug (Linerless)	
	HCL	PE	446-315P (0.083" E Wall)	Plug (Linerless)	
	LCL*	PE	D-0681-305 (0.063" E Wall)	TPE Liner	
	VAJ	PP	D-0681-305 (0.063" E Wall)	TPE Liner	
	VFJ	PP	D-0681-305 (0.063" E Wall)	Induction Foil	
	VSI	PP	N439115 (0.063" E Wall)	TPE Liner	
43mm	TTV*	PP	Graham 9001-0543 (0.090" E Wall)	Plug (Linerless)	
	VMD	PP	400-010P (0.090" E Wall)	TPE Liner	
63mm	VHJ	PP	376-127P (Blow Trim)	TPE Liner	
	VSJ	PP	376-127P (Blow Trim)	TPE Liner	

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