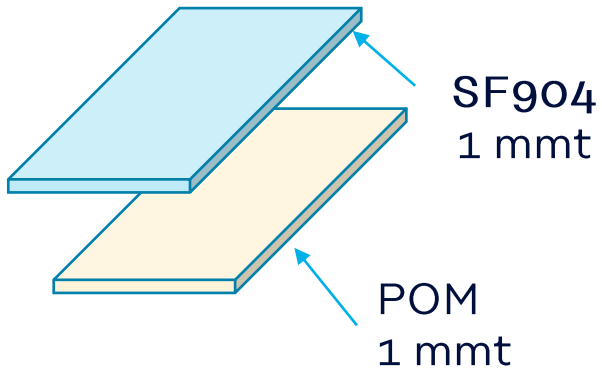


Thermal Bonding of SEPTON™ BIO-series SF904 to Polyoxymethylene (POM)

Elastomer R&D Dept.
Elastomer Division

kuraray **Septon™** BIO-series

Thermal Bonding of SEPTON™ BIO-series SF904



Compression molding
Upper: 220 deg. C
Lower: 120 deg. C

	Unit	SEPTON™ BIO-series SF904	SEPTON™ 2004F
Structure	-	HSFC ¹⁾	SEPS ²⁾
MFR (230 deg. C, 2.16 kg)	g/10 min	48	5
Styrene content	wt%	21	18
Bio-based content	wt%	48	0
180° peel strength	To POM ³⁾	N/25 mm	20 ⁵⁾
	To PP ⁴⁾	N/25 mm	23 ⁶⁾
			1.3 ⁵⁾
			36 ⁵⁾

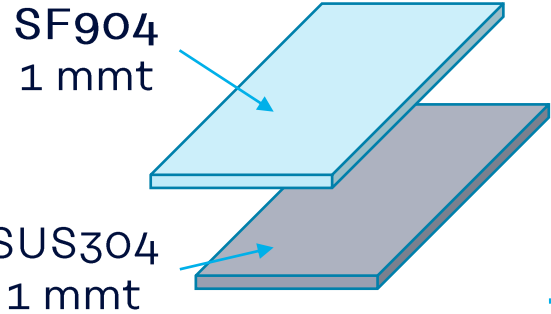
- 1) Hydrogenated Styrene Farnesene Block Copolymer
- 2) Styrene-Ethylene-Propylene-Styrene
- 3) MFR=9 g/10 min (190 deg. C, 2.16 kg)
- 4) Homo-PP, MFR=11 g/10 min (230 deg. C, 2.16 kg)
- 5) Interfacial failure
- 6) Cohesive failure

✓ SF904 strongly bonded to both POM and PP.

Thermal Bonding of SEPTON™ BIO-series SF904 (Video)

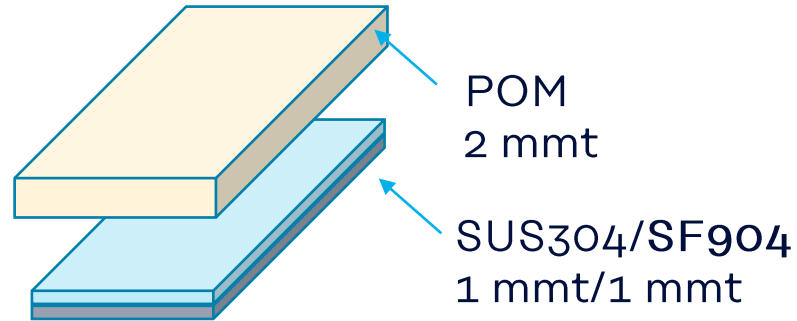
<https://kuraray.wistia.com/medias/mueg35x8mc>

Step 1



Compression molding
Upper: 220 deg. C
Lower: 120 deg. C

Step 2

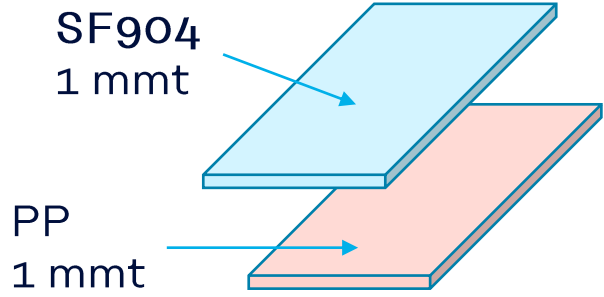


Insert injection molding
Cylinder: 210 deg. C
Mold: 80 deg. C



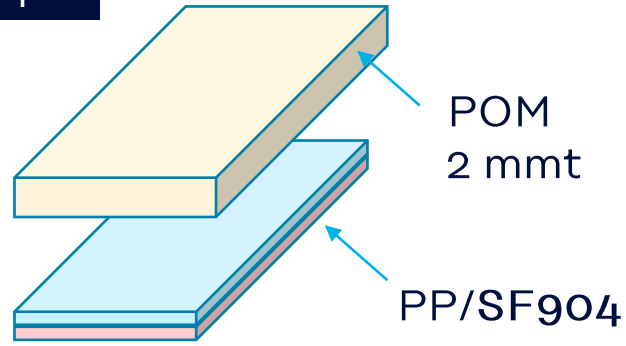
Effects of Molding Method

Step 1



Insert injection molding
Cylinder: 250 deg. C
Mold: 50 deg. C

Step 2

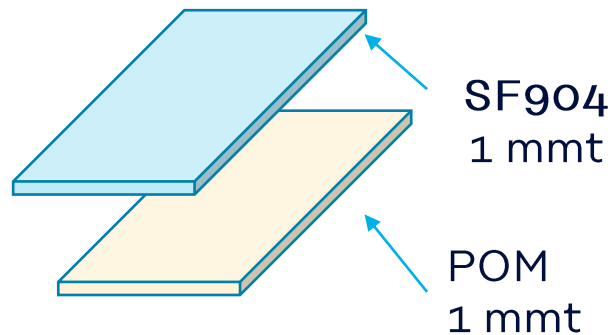


Insert injection molding
Cylinder: 210 deg. C
Mold: 80 deg. C

Good

Insert injection molding of POM on SF904
➤ Strongly bonded.

Insert injection molding
Cylinder: 250 deg. C
Mold: 50 deg. C



Bad

Insert injection molding of SF904 on POM
➤ Not work.

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For medical, health care and food contact applications, please contact your Kuraray representative for specific recommendations. Even so, users must conduct their own assessment, revisions, registrations as well rely in their own technical and legal judgment to establish the safety and efficacy of their compound and/or end product with SEPTON™ for any application. SEPTON™ should not be used in any devices or materials intended for implantation in the human body. Nothing contained herein constitutes a license to practice under any patent and it should not be construed as an inducement to infringe any patent and the user is advised to take appropriate steps to be sure that any proposed use of the product will not result in patent infringement.

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