

SoarnoL™ SF7503B

ETHYLENE VINYL ALCOHOL COPOLYMER (EVOH)

Excellent Flex Crack Resistance

Application

SoarnoL™ SF7503B is a special grade of SoarnoL™ with a 29mol% ethylene content and a low MFR (melt flow rate). SoarnoL™ SF7503B has an excellent flex crack resistance with high barrier to gases. It is appropriate for bag in boxes and barrier liner.

General Properties

Properties	Unit	Value
Ethylene Content	mol%	29
MFR ¹⁾ (210 degree C, 2160g)	g/10min	3.0
Volatile Matter	%	< 0.3
Melting Point ²⁾	degree C	188
Crystallization Temp. ²⁾	degree C	163
Glass Transition Temp. ²⁾	degree C	62
Density ³⁾ (23 degree C)	g/cm ³	1.11
Oxygen Permeability ⁴⁾ (20 degree C x 65%RH)	cc.20µm / m ² .day.atm cc.mil / 100inch ² .day.atm	0.4 0.020

1): Measured with Melt Indexer

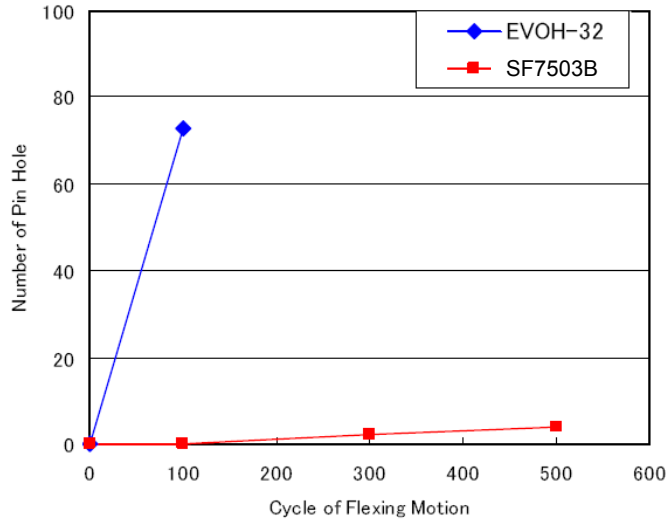
2): Measured with DSC, both heating and cooling speeds of 10 degree C/min

3): Measured with Micromeritics Gas Pycnometer

4): Measured with OXTRAN 2/20 (MOCON)

*The above figures are representative values and are not guaranteed.

Flex Crack Resistance (with EVOH mono layer film)



Number of pin hole vs. cycles of flexing motion at 23°C

(Film size 28cm × 19cm × 30 μm Dry film)

(100, 300 or 500 cycles of 440° twisting with 8.89 cm stroke + 6.35 cm horizontal stroke)

Fig. 1 Number of pin hole vs. cycles of flexing motion at 23C, 0%RH

Flex Crack Resistance (OTR before/after Gelbo flex test with co-ex film)

	OTR [cc.20um/m ² .day.atm]	
	SF7503B	32mol% EVOH
Before Gelbo flex test	0.5	0.5
After Gelbo flex test (500 times)	1.0	Over Range

Fig.2 OTR before/after flex crack test

Sample film: LL/Tie/EVOH/Tie/LL=60 / 5 / 10 / 5 / 60um, Total120um

Melt Viscosity

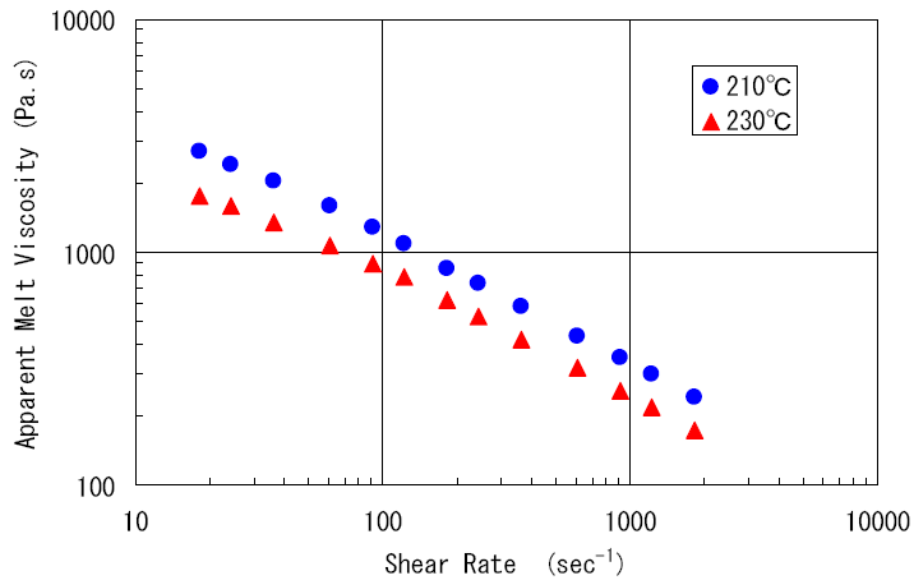


Fig. 3 Melt Viscosity of SoarnOL™ SF7503B

Example of Processing

Extruder : 40 mmφ L/D = 28
 Screw : full flight, constant pitch type, C.R. = 3.5
 Screen pack : 90/90 mesh

Processing Temperature

	C ₁	C ₂	C ₃	C ₄	C ₅	AD
deg.C	190-210	200-220	210-230	210-230	210-230	210-230
deg.F	374-410	392-428	410-446	410-446	410-446	410-446

Quality and Safety for Application of Soarnol™ SF7503B

High quality Soarnol™ is produced by Mizushima plant in Japan, NOLTEX L.L.C. in U.S.A. and NIPPON GOHSEI UK Ltd. in U.K.. All plants are certified to meet the requirement of ISO 9001.

Soarnol™ contains no heavy metals or other harmful substances. Soarnol™ SF7503B meets the Food Sanitation Standards of various countries.

U.S.A: US FDA 21, C.F.R. 175.105

EU: Commission Regulation (EU)No. 10/2011 and its amendments

JAPAN: Ministry of Health and Welfare Announcement No.370(1959) and ItsLatest Amendment No.18(1994)

Voluntary Standards for Food Contact Substances and Polymers (JHOSPA)

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