Engine oil SJ class compatibility with AFLAS®

Test method Soaked into the fluid at 175℃ for 70h, 168h, 500h & 1000h.
Test fluid Engine oil SJ class
Test piece AFLAS® 100S (standard formulation)

Formulation

AFLAS® 100S	100
MT-Carbon(N990)	30
TAIC*	5
Perkadox® 14**	1
Sodium Stearate	1

(phr)

Cure Conditions Press molded at 170C for 20min
Post cured at 200C for 4h

Properties (before test)	AFLAS® 100S	FKM (polyol cure)	FKM (peroxide cure)
Tensile strength [MPa]	23	13	24
Tensile Elongation [%]	236	197	354
Hardness [shore-A]	72	79	67

Engine oil SJ class compatibility 175 ℃ for 70 hours	AFLAS® 100S	FKM (polyol cure)	FKM (peroxide cure)
Chang of Tensile Strength [%]	**-23.6**	-3.6	-79.8
Change of Tensile Elongation [%]	**5.1**	-21.8	148.6
Change in Hardness [points]	**-1**	1	0
Volume change [%]	**NA**	NA	NA

Engine oil SJ class compatibility 175 ℃ for 168 hours	AFLAS® 100S	FKM (polyol cure)	FKM (peroxide cure)
Chang of Tensile Strength [%]	**-12.7**	-54	-78.5
Change of Tensile Elongation [%]	**-10.2**	-65.5	-59
Change in Hardness [points]	**-6**	0	0
Volume change [%]	**9.2**	1.2	1.6

Engine oil SJ class compatibility 175 ℃ for 500 hours	AFLAS® 100S	FKM (polyol cure)	FKM (peroxide cure)
Chang of Tensile Strength [%]	**-9.7**	-59.1	-84.7
Change of Tensile Elongation [%]	**-5.1**	-65.5	-66.7
Change in Hardness [points]	**-6**	1	0
Volume change [%]	**9.5**	1.4	1.4

Engine oil SJ class compatibility 175 ℃ for 1000 hours	AFLAS® 100S	FKM (polyol cure)	FKM (peroxide cure)
Chang of Tensile Strength [%]	**-8**	-65	-78.5
Change of Tensile Elongation [%]	**-4.7**	-65	-59
Change in Hardness [points]	**-5**	3	3
Volume change [%]	**7.2**	0.4	1.2

* Triallylisocyanurate

** 1,3-bis(t-butylperoxy)-diisopropylbenzene. Perkadox® is a registered trademark of Akzo Nobel Chemicals B.V.