



# Product Application Guide

ACM as replacement for AEM and non-PFAS alternative for FKM LT

## Application Description

AEM and FKM (LT) is used typically in sealing solutions in synthetic and mineral oil in the engines and gearboxes because of the good chemical resistance and cold flexibility.

## Our Added Values

- Increase Supply Chain stability
- PFAS free alternative
- Cost savings potential
- Full engineering support, back-to-back testing

## Product Description

GITIS has developed recently new ACM grades with similar or better performance to replace such materials. We have tested various representative oils as well as aged parts in both materials against each other's to ensure the same or a similar performance, AEM vs ACM and ACM vs FKM/FKM LT.



# HYTEMP ACM

## Sealing Your Success

**Disclaimer:** In general, the enclosed information, recommendations or advice are given in a good faith. GITIS srl gives no warranty that the same results can be obtained in other laboratories using different condition of preparation and evaluation of the samples.





MECHANICAL & PHYSICAL PROPERTIES						
Test Type	O-Ring / Compound	Norm Standard	Unit	ACB70S37	VB070LT0	VB070ST1
Hardness		ISO 48	Points	71,4	72,2	73,9
Specific weight		ISO 2781-A	g/cm <sup>3</sup>	1,346	1,834	1,859
Tensile strength		DIN 53504 S2	%	8,41	12,44	12,87
Elongation at break		DIN 53504 S2	%	192,12	332,35	216,52
C.set 24h 150°C		ISO 815-1	%	14,6	8,8	8,1
AGING TEST						
Test Type	O-Ring / Compound	Norm Standard	Unit			
<b>*Mineral Oil*</b>						
Exxon Mobil (Esso) Mobilgear 600 XMP 320 168h 150°C ISO 1817						
Δ Hardness	Compound		Points	0,9	-1,3	-0,1
Δ Tensile strength	Compound		%	2,37	2,73	-25,31
Δ Elongation at break	Compound		%	-1,35	-0,9	-27,66
Δ Volume	Compound		%	2,62	0,8	0,99
Δ Weight	Compound		%	1,81	0,52	0,29
<b>*Mineral Oil*</b>						
Shell Omala F 320 168h 150°C ISO 1817						
Δ Hardness	Compound		Points	-0,6	-2,3	-3,2
Δ Tensile strength	Compound		%	7,13	1,6	-1,55
Δ Elongation at break	Compound		%	-6,97	4,2	3,85
Δ Volume	Compound		%	2,39	1,62	2,72
Δ Weight	Compound		%	1,93	1,18	1,62
<b>*Sintetic Oil*</b>						
Exxon Mobil (Esso) Mobilgear SHC XMP 320 168h 150°C ISO 1817						
Δ Hardness	Compound		Points	-9,2	-2,5	-1,7
Δ Tensile strength	Compound		%	-4,14	-5,06	-9,4
Δ Elongation at break	Compound		%	-4,11	3,55	-13,02
Δ Volume	Compound		%	8,93	2	2
Δ Weight	Compound		%	6,1	1,05	1,01
<b>*Sintetic Oil*</b>						
Fuchs Renolin Unisyn CLP 320 168h 150°C ISO 1817						
Δ Hardness	Compound		Points	-2	-2,4	-0,4
Δ Tensile strength	Compound		%	-2,48	2,89	4,31
Δ Elongation at break	Compound		%	-1,76	6,54	-0,86
Δ Volume	Compound		%	5,55	3,11	1,71
Δ Weight	Compound		%	4,13	1,88	0,84

**GITIS** specializes in the development, manufacturing and distribution of high-quality O-rings and seals for all applications with special requirements regarding temperature and media resistance, service life and product quality. Through innovation, technology and high reliability, **GITIS** has become the reliable partner for markets such as automotive, oil and gas, chemical, food and pharma.

With three plants in Italy and China as well as a development office in Germany, we can implement the experience of 40 years together with our customers in strategic growth sectors.

## Sealing Your Success



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