



## AP 302 – EPDM material for use in the food and pharmaceutical industries

There are particular requirements which need to be met for the use of precision O-rings in the food and pharmaceutical industries. The newly developed EPDM material AP 302 from COG has two of the most important approvals for these areas: it passes the clearance test for harmless products according to FDA 21 CFR Section 177.2600, and has been given a release certificate in accordance with USP Class VI in Chapter 88. Here the material was tested up to 121 °C and not, as is usually the case in the market, only up to 70 °C. This ensures additional safety when used in critical areas.

AP 302 has been designed especially for use with liquid or fatty media. The new sealing material is very well suited for an operating temperature range of -40 °C to 150 °C, and in particular also in the case of contact with CIP/SIP media. This means AP 302 provides great flexibility when used in different production processes in the pharmaceutical and food industries.

### Properties of AP 302

- EPDM terpolymer, peroxidically crosslinked
- Hardness 70 Shore A
- Operating temperature range: -40 °C to 150 °C
- Compression set 15%
- Certificate according to FDA 21 CFR Section 177.2600
- Certificate according to USP Class VI – 121 °C in Chapter 88
- Very good resistance in the CIP/SIP process

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# AP 302 – ideal EPDM material including for use in the CIP process

Conventional O-ring materials cannot be used in these applications because the legally stipulated approvals are missing. The seals used here also have to resist the interactions occurring in the production process. The cleaning cycles in the SIP\* or CIP\*\* process in particular place the highest demands on the seals used there.

Many of the seals used fail here entirely or can remain without leaks only for short periods. The sealing material AP 302, however, can withstand longer usage times and also stands out thanks to its hardness of only 70 Shore with a very low compression set of 15 % (22h/100°C). It therefore has the ideal requirements for use in these industries.



\* **SIP** = Sterilisation in place

\*\* **CIP** = Cleaning in place

## Material data

COG-No.:	AP 302
Basic elastomer:	Ethylene propylene diene rubber (EPDM)
Colour:	Black
Operating temperature:	From -40 °C to +150 °C
Certificates/approvals:	FDA Section 177.2600, USP Class VI-121 °C
Comment:	Peroxidically crosslinked

## Rubber technology data

Properties	Unit	Value	Test method
Hardness:	Shore A	70 ± 5	DIN 53 505
	°IRHD, CM	70 +3/-8	DIN ISO 48
Tension at 100 %:	N/mm <sup>2</sup>	4	DIN 53 504
Tear resistance:	N/mm <sup>2</sup>	9	DIN 53 504
Ultimate elongation:	%	200	DIN 53 504
Tear growth resistance:	kN/m	12	DIN ISO 34-1, B(a)
Compression set			
(22 h/100 °C)	%	15	DIN ISO 815
(22 h/150 °C)	%	20	DIN ISO 815

The indicated values do not replace the official data sheet. They are not binding and exclude all liability for damage of any kind.

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