

5.12 Ethylene-Propylene Rubber, EPM, EPDM

Ethylene propylene rubber is fully resistant to ozone attack, due to the saturated chemical backbone structure and has also very good heat resistance and good resistance against many chemicals. The EPDM can be extended with high amounts of fillers and softeners. Special care has to be taken to achieve good adhesion to textile and metal. Oil resistance is poor.

Specifications are given in Tables 30 to 35.

Table 30 – Basic properties – EPM, EPDM type 1

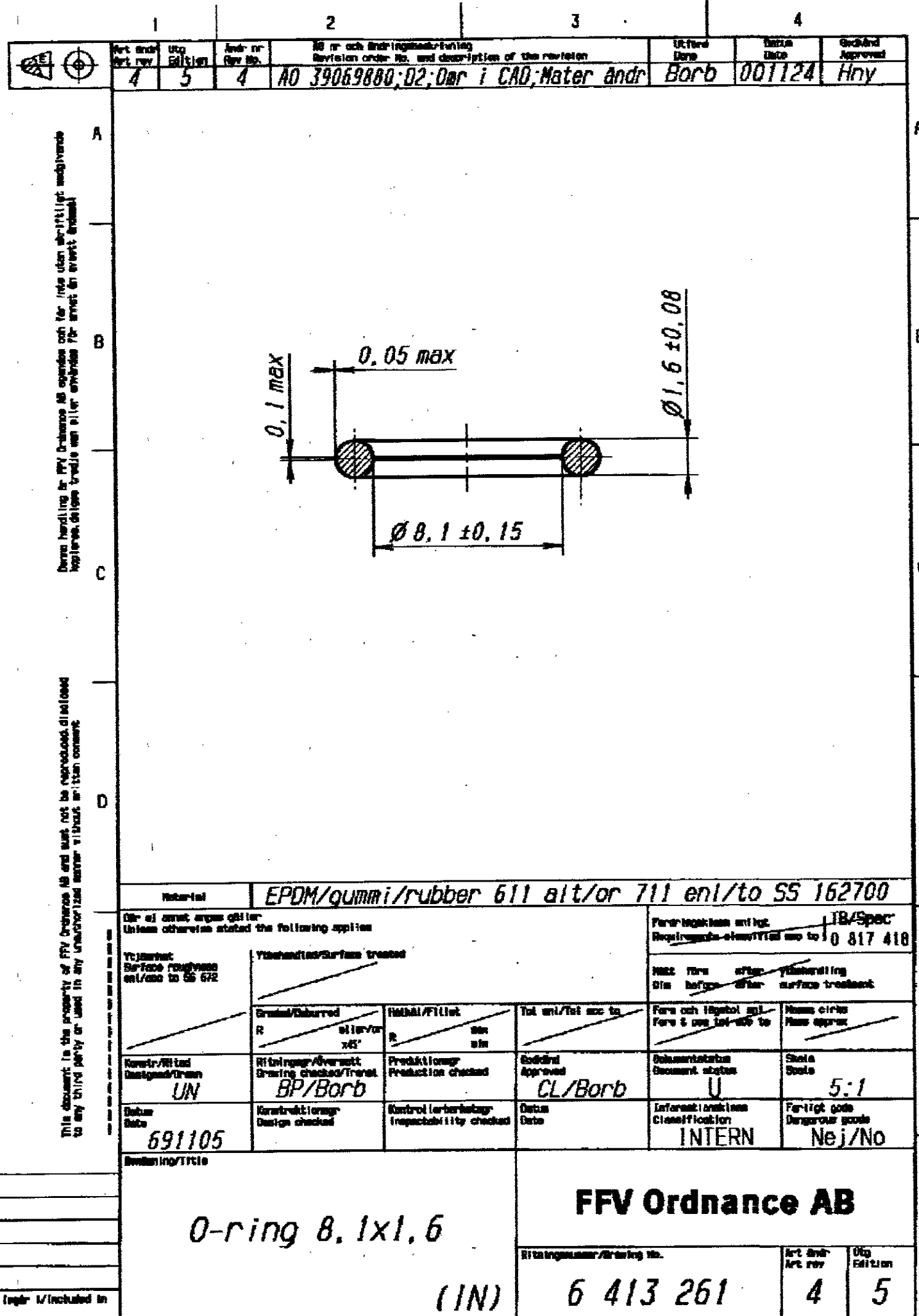
Property			Hardness and type number						Test method
			30-1	40-1	50-1	* 60-1	** 70-1	80-1	
Hardness	IRHD	–	30 ± 5	40 ± 5	50 ± 5	60 ± 5	70 ± 5	80 ± 5	SS-ISO 48
Tensile strength	MPa	Min	7	7	7	10	10	7	SS-ISO 37
Elongation at break	%	Min	400	400	400	250	200	200	SS-ISO 37
Tension set 100 °C/24h and 50% strain	%	Max	45	45	45	45	45	45	SS-ISO 2285
Tear resistance	N/mm	Min	10	15	15	20	20	20	SS-ISO 34-1; Method C
Compression set 100 °C/24h	%	Max	45	45	45	45	45	45	SS-ISO 815 ¹⁾ Test pieces type A
100 °C/42 days	%	Max	75	75	75	75	75	75	
Change in hardness 100 °C/72h	IRHD	Max	+ 10	+ 10	+ 10	+ 5	+ 5	+ 5	SS-ISO 48 ¹⁾
100 °C/42 days	IRHD	Max	+ 15	+ 15	+ 15	+ 10	+ 10	+ 10	
Change in tensile strength 100 °C/72h	%	Max	- 15	- 15	- 15	- 15	- 15	- 15	SS-ISO 37 ¹⁾
100 °C/42 days	%	Max	- 30	- 30	- 30	- 30	- 30	- 30	
Change in elongation at break 100 °C/72h	%	Max	- 35	- 35	- 35	- 35	- 35	- 35	SS-ISO 37 ¹⁾
100 °C/42 days	%	Max	- 60	- 60	- 60	- 60	- 60	- 60	
Ozone resistance 50 pphm/40 °C/96h	%	Min	80	80	80	80	60	60	SS-ISO 1431-1 Procedure C

1) Ageing in accordance with SS-ISO 188, Method A

Table 31 – Supplementary properties – EPM, EPDM type 1

Property				Hardness and type number						Test method
				30-1	40-1	50-1	* 60-1	** 70-1	80-1	
Cold-resistant (C)	Temp. retraction TR ₁₀	°C	Max	- 35	- 35	- 40	- 40	- 40	- 40	SS-ISO 2921
	Temp. retraction TR ₃₀	°C	Max	- 25	- 25	- 30	- 30	- 30	- 30	SS-ISO 2921

DRG NO: FS-2882 A



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AMENDMENTS			
REV	DATE	DESCRIPTION	SIGN
A 23 2014	29/11/14	NEW NEGATIVE MADE	- Sd - Sr.DR/ODC

ALT. MATERIAL:
 RUBBER TO SPECN SS EN 162010: 2005
 EPDM TYPE-1, SULPHUR VULCANIZED,
 DESIGN SS 162010 EPDM 60-1-C * OR
 SS 162010 EPDM 70-1-C **
 (REFER SHEET 2/2)

DRAWN	
CHECKED	
HOS/CDD	29/01/14
APPROVED BY Sr.DIR/ODC	
DRAWING NO: FS-2882 A	SHEET NO 1/2
ऑर्डनेंस फैक्टरी अम्बाझरी ORDNANCE FACTORY AMBAZHARI	