

## Produkt

### Tyton SIT Viper, VOTEC

Produkt detaljer	
<b>Produkt</b>	Tyton SIT Viper, VOTEC iht. DIN EN 545, DIN EN 681-1 (tilsvarende Tyton SIT+®)
<b>Utgivelses Dato</b>	September 2018
<b>Anvendelse</b>	Benyttes som strekkfast tetnings ring for duktile støpejernsrør for drikkevann
<b>Type</b>	Tyton SIT Viper, VOTEC, er tilsvarende Tyton SIT + ® tetningsring og kan benyttes i samme applikasjoner
<b>Komponenter</b>	EPDM gummi med grip elementer i stål
<b>Produsent</b>	VIP-Polymers, UK
<b>Godkjenninger, sertifiseringer, standarder og referanser</b>	Alle godkjenninger og sertifiseringer er knyttet opp til produsenten. Godkjenninger, sertifiseringer, standarder og referanser: <ul style="list-style-type: none"><li>• CoC, Tyton SIT Viper: Vedlegg 1</li><li>• Produksjon: ISO 9001, Vedlegg 2</li><li>• Material Reference:<ul style="list-style-type: none"><li>○ EW54W (DN80-400), Vedlegg 3</li><li>○ EW60 (DN450-600), Vedlegg 4</li></ul></li><li>• Kitemark Certificate, En681-1, VIP- Polymers, Vedlegg 5</li><li>• BS 6920-2.1:2014 (WRAS)</li><li>• KTW W270</li><li>• DIN28603</li></ul>
<b>Henvisninger</b>	Det henvises også til følgende nyttig informasjon: <ul style="list-style-type: none"><li>• Tilhørende Produkt Datablad og monteringsanvisning for Duktile Støpejernsrør</li><li>• VA Miljøblad nr. 5, Grøfteutførelse fleksible rør</li><li>• VA Miljøblad nr. 6, Grøfteutførelse stive rør</li><li>• VA Miljøblad nr. 16, Kravspesifikasjon for duktile støpejernsrør</li><li>• VA Miljøblad nr. 25, Trykkprøving av trykkledninger</li></ul>



## Innholdsfortegnelse

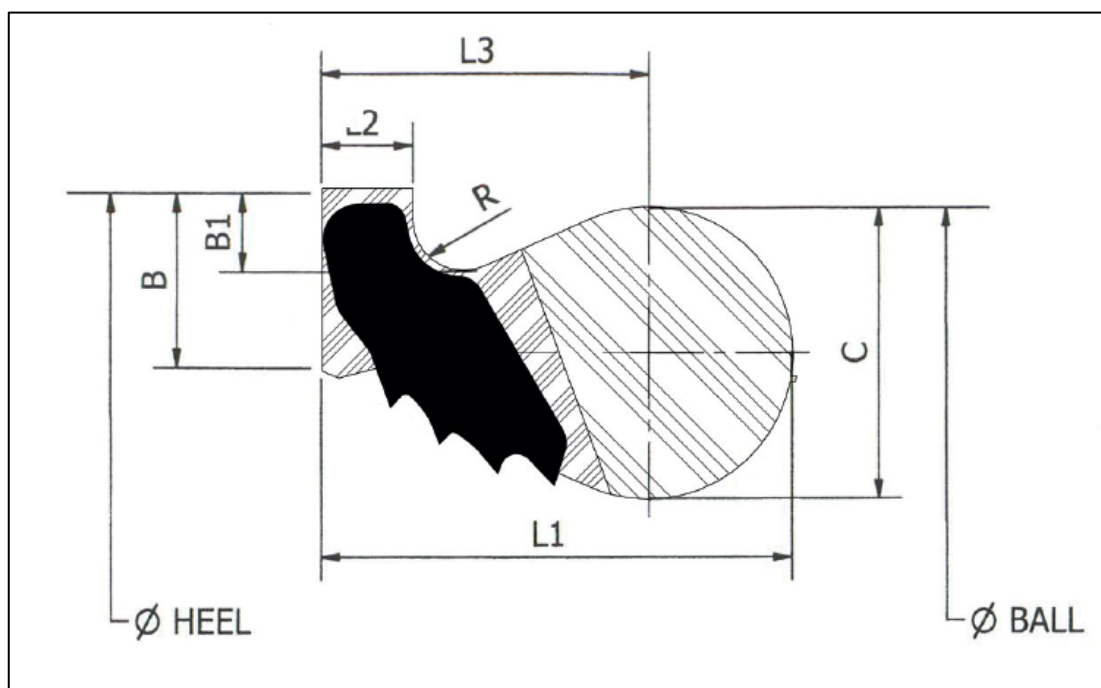
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## 1. Mål og Dimensjoner

DN [mm]	NRF Nr.	PN [Bar]	Ø Heel [mm]	Ø Ball [mm]	L1	C	Vekt [kg]
80	2030093	16	126 ± 1,0	124 ± 1,0	26	16	0,162
100	2030094	16	146 ± 1,0	144 ± 1,0	26	16	0,185
150	2030095	16	200 ± 1,5	198 ± 1,5	26	16	0,270
200	2030096	16	256 ± 1,5	254 ± 1,5	30	18	0,470
250	2030097	16	310 ± 1,5	308 ± 1,5	32	18	0,640
300	2030098	16	366 ± 1,5	364 ± 1,5	34	20	0,950
400	2030099	16	475 ± 2,0	473 ± 2,0	38	22	1,570
500	2030101	10	583 ± 3,0	581 ± 3,0	42,5	25	2,160
600	2030102	10	692 ± 3,0	690 ± 3,0	46,5	27	2,550

Tabell 1

- DN80 > 400 - Hardhet: 80 (heel) / 50 (ball) Shore A ± 5
- DN450 > 600 - Hardhet: 60 (heel) / 60 (ball) Shore A ± 5
- Anbefalt arbeidstemperatur-område: -10 / +60°C, iht. BS EN681-1:1996



Bilde 1

## 2. Maks. Trykk

Ved bruk av Tyton SIT Viper / strekkfaste pakninger, vil denne være begrensningen mtp. maks. trykk. Se trykkskjema i vedlegg 9.

## 3. Tekniske Data

<b>Fluid</b>	Drikkevann
<b>Hardhet (EPDM)</b>	<ul style="list-style-type: none"><li>DN80 &gt; 400 - Hardhet: 80 (heel) / 50 (ball) Shore A ± 5</li><li>DN450 &gt; 600 - Hardhet: 60 (heel) / 60 (ball) Shore A ± 5</li></ul>
<b>Fluidtemperatur</b>	Anbefalt arbeidstemperatur-område: -10 / +60°C, iht. BS EN681-1:1996
<b>Materialer</b>	<ul style="list-style-type: none"><li>Gummi: EPDM</li></ul>

## 4. HMS (helse, miljø og sikkerhet)

<b>Brannfare</b>	-
<b>Helse – og Miljøfare</b>	-
<b>Destruksjon</b>	Gummi som avfall håndteres iht. prosedyrer for gummi
<b>Datablader</b>	-

## 5. Mottakskontroll

Kjøper skal ved mottakelsen kontrollere leveransen mot pakkseddel og undersøke varen forsvarlig, alt etter leveransens art og leveringsform. Det henvises forøvrig også til FL-VA/VVS 2016.

## 6. Forpakninger

Rørene blir levert i esker

## 7. Lagring

Lagres, tørt, innomhus (20° C) og mørkt (ikke i sollys).  
Pakningene bør ikke overstige mer enn 10 års lagringstid før installasjon.

## 8. Service- og vedlikeholds instruksjon

Vedlikehold	-
Reparasjoner	Ved skader må tetningsringen byttes med en ny

## 9. Installasjon og Montering

Se gjeldende «Monteringsanvisning» for støpejernsrør.

Pakningen skal ha romtemperatur før installasjon.

## 10. Vedlegg

Dokument	Vedlegg
ISO 9001:2015	1
ISO 14001:2015	2
Certificate of Conformity	3
Kitemark Certification	4
EW54W Tyton Sit Viper KTW (UBA)	5
EW60 Tyton Sit Viper KTW (UBA)	6
Viper Gasket Datasheet	7
Trykkskjema	8

## Vedlegg 1

# Certificate of Registration

QUALITY MANAGEMENT SYSTEM - ISO 9001:2015

This is to certify that:

VIP Polymers Ltd  
15 Windover Road  
Huntingdon  
PE29 7EB  
United Kingdom

Holds Certificate Number:

FM 01685

and operates a Quality Management System which complies with the requirements of ISO 9001:2015 for the following scope:

**The manufacture of compression moulded, injection moulded and extruded elastomeric products to customer specifications.**  
**The compounding of rubber formulations.**  
**The design and development of elastomeric products and compounds.**

For and on behalf of BSI:



Andrew Launn, EMEA Systems Certification Director

Original Registration Date: 1988-10-12

Latest Revision Date: 2018-03-01

Effective Date: 2018-03-10

Expiry Date: 2021-03-09



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This certificate was issued electronically and remains the property of BSI and is bound by the conditions of contract. An electronic certificate can be authenticated [online](#). Printed copies can be validated at [www.bsigroup.com/ClientDirectory](http://www.bsigroup.com/ClientDirectory)

Information and Contact: BSI, Kitemark Court, Davy Avenue, Knowlhill, Milton Keynes MK5 8PP. Tel: + 44 345 080 9000  
BSI Assurance UK Limited, registered in England under number 7805321 at 389 Chiswick High Road, London W4 4AL, UK.  
A Member of the BSI Group of Companies.

## Vedlegg 2



# Certificate of Registration

ENVIRONMENTAL MANAGEMENT SYSTEM - ISO 14001:2015

This is to certify that:

VIP Polymers Ltd  
15 Windover Road  
Huntingdon  
PE29 7EB  
United Kingdom

Holds Certificate Number:

EMS 680793

and operates an Environmental Management System which complies with the requirements of ISO 14001:2015 for the following scope:

**The manufacture of compression moulded, injection moulded and extruded elastomeric products to customer specifications. The compounding of rubber formulations. The design and development of elastomeric products and compounds.**

For and on behalf of BSI:



Andrew Launn, EMEA Systems Certification Director

Original Registration Date: 2018-05-29

Effective Date: 2018-05-29

Latest Revision Date: 2018-05-29

Expiry Date: 2021-05-28



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## Vedlegg 3



## Certificate of Conformity

Product Range:	Tyton-SIT VIPER
Size Range:	DN80-DN600
Material Reference:	EW54W (DN80-400); EW60 (DN450-DN600)
Physical Testing:	<b>BS EN 681-1:1996</b> ; Elastomeric seals. Material requirements for pipe joint seals used in water and drainage applications. Vulcanized rubber
Potable Water:	<b>WRAS</b> (UK) Approval No: 1612514; Expiry: December 2021 <b>BS 6920-2.1:2014</b> : Suitability of non-metallic materials and products for use in contact with water intended for human consumption with regard to their effect on the quality of the water. <b>Attestation De Conformite Sanitaire</b> (France); Expiry August 2020 <b>KTW</b> (Germany); Expiry December 2021 <b>W270</b> (Germany); Expiry February 2021

This is to certify that material reference EW54W & EW60 has been used by VIP-Polymers Ltd to manufacture the gaskets described above.

VIP-Polymers Ltd  
15 Windover Road,  
Huntingdon,  
Cambs PE29 7EB



Authorised Signatory:

VIP-Polymers Ltd  
15 Windover Road,  
Huntingdon,  
Cambs PE29 7EB

August 2018

TEL: +44 (0)1825 410343  
FAX: +44 (0)1825 452051  
www.vip-polymers.com

## Vedlegg 4





By Royal Charter

# Kitemark™ Certificate

This is to certify that:

VIP-Polymers Limited  
15 Windover Road  
Huntingdon  
PE29 7EB  
United Kingdom

Holds Certificate Number:

KM 07729

In respect of:

**BS EN 681-1**

**Elastomeric seals - Material requirements for pipe joint seals used in water and drainage application**

This issues the right and licence to use the Kitemark in accordance with the Kitemark Terms and Conditions governing the use of the Kitemark, as may be updated from time to time by BSI Assurance UK Ltd (the "Conditions"). All defined terms in this Certificate shall have the same meaning as in the Conditions.

The use of the Kitemark is authorized in respect of the Product(s) detailed on this Certificate provided at or from the above address.

For and on behalf of BSI:

Gary Fenton, Global Product Certification Director

First Issued: 21/09/1987

Latest Issue: 17/12/2015



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This certificate has been issued by and remains the property of BSI Assurance UK Ltd, Kitemark Court, Davy Avenue, Knowlhill, Milton Keynes MK5 8PP, United Kingdom and should be returned immediately upon request.  
To check its validity telephone +44 (0) 845 080 9000. An electronic certificate can be authenticated [online](#).

BSI Assurance UK Limited, registered in England under number 7805321 at 389 Chiswick High Road, London W4 4AL, UK.  
A member of BSI Group of Companies.

# Kitemark™ Certificate

No. KM 07729

**BS EN 681-1:1996 - Elastomeric seals. Material requirements for pipe joint seals used in water and drainage applications. Vulcanized rubber.**

Compound ref.	Hardness Class	Product Description	Type	Size range
SB45 SB50 SB55 SB60 SB65 SB85 CVE45 CVE48 CVE52 CVE60 CVE70 EP 42	40 50 50 60 60 80 40 40 50 60 70 40	Circular & non-circular section seals for concrete, plastic, steel, ductile iron and clay pipe.	WC	50 - 3000 mm
S73 S81	70 81	Circular & non-circular section seals for concrete, plastic, steel, ductile iron and clay pipe.	WC + WG	50 - 3000 mm
CVE61 CVE69 CVE78 EW50 EW53 EW54 EW54W EW55 EW60 EW65 EW70 EW80 EW81 EW85	60 70 80 50 50 50 50 50 60 60 70 80 80 80	Circular & non-circular section seals for concrete, plastic, steel, ductile iron and clay pipe.	WA+WC	50 - 3000 mm
EP82	80	Heel section of compression moulded 'Tyton' and 'Stantyte' seals.	WA+WC	50 - 1600 mm
EP83	80	Heel section of injection moulded 'Tyton' seals.	WA+WC	50 - 600 mm

First Issued: 21/09/1987

Latest Issue: 17/12/2015

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## Vedlegg 5



# PRÜFZEUGNIS

entsprechend der Übergangsregelung der Elastomerleitlinie über die Untersuchung von Gummiprüfproben "TYTON SIT / Anchor / EXTRA / VIPER Dichtung (DN80- DN400) aus Mischung EW54W (weich) und EW80" gemäß der Leitlinie zur hygienischen Beurteilung von Elastomeren im Kontakt mit Trinkwasser des Umweltbundesamtes (Elastomerleitlinie des UBA)

Hersteller: VIP-Polymers Ltd., Huntingdon, Cambridgeshire, Großbritannien  
 Art der Proben: Gummiqualität (EPDM)  
 Bezeichnung der Proben: "TYTON SIT / Anchor / EXTRA / VIPER Dichtung (DN80- DN400) aus Mischung EW54W (weich) und EW80"  
 Art der Prüfkörper: Originalprobekörper  
 Eingang der Proben: 05.10.2017  
 Probenehmer: Auftraggeber  
 TZW-Az.: KA- 0378/17

## Untersuchungsergebnisse

1. Rezeptur: wurde unter KC 631/17 vorgelegt und überprüft
2. Migrationstest:

Kaltwasser 23°C	1. – 3. Tag	4. – 6. Tag	7. – 9. Tag	Richtwert für 3. Extraktion
Klarheit, Färbung, Geruch, Geschmack, Schaumbildung	n nb	n nb	n nb	nicht nennenswert beeinflusst
C-Abgabe [mg/l] [C <sub>Tap</sub> ]	0,01	<0,01	<0,01	≤ 0,5

Formaldehyd [mg/l] [C <sub>Tap</sub> ]	0,0002	<0,0001	<0,0001	≤ 0,75
Zink*) [mg/l] [C <sub>Tap</sub> ]	0,0046	0,0042	0,0040	≤ 3,0
Primäre Aromatische Amine*) [mg/l] [C <sub>Tap</sub> ]	<0,000005	<0,000005	<0,000005	≤ 0,00010
Sekundäre Amine*) [mg/l] [C <sub>Tap</sub> ]	0,000013	0,000008	0,000006	≤ 0,25
PAK*) [mg/l] [C <sub>Tap</sub> ]	0,000003	0,000003	0,000004	≤ 0,00010
2-Mercaptobenzothiazol*) [mg/l] [C <sub>Tap</sub> ]	0,00017	0,00026	0,00023	≤ 0,25

2 Rezepturbestandteile, die der Gehemhaltung unterliegen*)	Richtwert eingehalten	Trinkwasser-SML-Werte nach Elastomerleitlinie
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\*) Prüfergebnisse TZW (D-PL-14555-01)

Die untersuchten Proben "TYTON SIT / Anchor / EXTRA / VIPER Dichtung (DN80- DN400) aus Mischung EW54W (weich) und EW80" für den Kontakt mit Trinkwasser entsprechen den Anforderungen der Elastomerleitlinie des Umweltbundesamtes (UBA) (Bundesgesundheitsblatt aktuelle Fassung) im Bereich Dichtungen für Rohre mit 80mm ≤ DN < 300mm und Dichtungen für Rohre mit DN ≥ 300mm.

Anmerkung:

Die Gültigkeit dieses Prüfzeugnisses richtet sich nach andernorts festgelegten Bestimmungen. Sie endet jedoch spätestens am 31.12.2021.

Karlsruhe, den 11.01.2018

  
Dr. J. Klinger / i.V. Dr.-Ing. R. Turković  
Leiter der Prüfstelle

Die Veröffentlichung des Prüfzeugnisses – vollständig oder in Auszügen – ist ohne ausdrückliche Genehmigung von seiten der Prüfstelle nicht gestattet



## Vedlegg 6

Technologiezentrum Wasser · Wasserwerkstr. 4 · 76137 Karlsruhe

VIP-Polymers Ltd.  
Mr. Peter O'Connor  
15 Windover Road  
HUNTINGDON, CAMBRIDGESHIRE, PE29 7EB  
GROßBRITANNIEN

Your reference, dated	e-mail of 29.01.2018
Our reference	Dr.JK/DE/ei KA 0038/18
Department	Test Centre
Contact	Ms. Dallol
Telephone	+49(0)721-93163-19
Fax	+49(0)721-93163-99
E-mail	elke.dallol@tzw.de

03.04.2018

Testing according to the „Guideline for the Hygienic Assessment of Elastomers in Contact with Drinking Water (Elastomer Guideline)“ of Umweltbundesamt (UBA) (Bundesgesundheitsblatt current version)

Dear Mr. O'Connor,


the samples of your rubber qualities "Tyton Sit / Anchor/ Extra / Viper (DN80) produced with compound EW60" and "Tyton Sit / Anchor / Extra / Viper (DN600) produced with compound EW60" announced in your letter mentioned above, your order of 29.01. and 31.01.2018, Mr. O'Connor, TRK# 771354878216, arrived here the 31.01.2018. Tests were performed as ordered according to elastomer guideline with list 2 of Umweltbundesamt (UBA) (Bundesgesundheitsblatt current version).

The results are given in the adjacent test certificate.

Additionally, please find attached our invoice.

Best regards

**TECHNOLOGIEZENTRUM WASSER**  
**PRÜFSTELLE WASSER**

  
Dr. J. Klinger / i.V. Dr.-Ing. R. Turković  
Head of the Test Centre

Das Technologiezentrum Wasser ist eine  
Einrichtung des DVGW Deutscher Verein  
des Gas- und Wasserfaches e.V.  
– Technisch-wissenschaftlicher Verein –

Geschäftsführer des TZW:  
Dr. Josef Klinger

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IBAN: DE53 6639 1600 0013 1919 13  
BIC: GENO DE 61 ORH

USt.ID-Nr.(VAT): DE 114 341 970  
Steuer-Nr.: 206 5887 0745

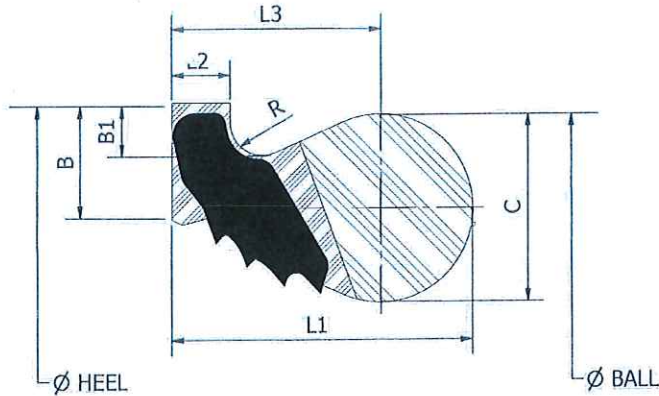
## Vedlegg 7





# TYTON-SIT Viper® Technical Data

TYTON-SIT Viper® Dimensions acc. to DIN28603



DN	Part Weight (kg)	Carton Qty	Working Pressure (bar)	Pipe Class
80	0.162	150	16	40
100	0.185	100	16	40
125	0.240	75	16	40
150	0.270	60	16	40
200	0.470	30	16	40
250	0.640	25	16	40
300	0.950	20	16	40
350	1.400	10	16	30
400	1.570	7	16	30
450	1.680	8	10	30
500	2.160	5	10	30
600	2.550	4	10	30

- DN80 > 400 - Hardness: 80 (heel) / 50 (ball) Shore A ± 5
- DN450 > 600 - Hardness: 60 (heel) / 60 (ball) Shore A ± 5
- Recommended working temperature range: -10 / +60°C as per BS EN681-1:1996

DN	Ball	Tolerance	Heel	Tolerance	B	Tolerance	B1	Tolerance	C	Tolerance	L1	Tolerance	L2	Tolerance	L3	± 1	R
80	124	± 1	126	± 1	10	± 0.3	4.5	± 0.5	16	+0.5/-0	26	± 1	5	+0.4/-0.2	18	± 1	3.5
100	144	± 1	146	± 1	10	± 0.3	4.5	± 0.5	16	+0.5/-0	26	± 1	5	+0.4/-0.2	18	± 1	3.5
125	171	± 1	173	± 1	10	± 0.3	4.5	± 0.5	16	+0.5/-0	26	± 1	5	+0.4/-0.2	18	± 1	3.5
150	198	± 1.5	200	± 1.5	10	± 0.3	4.5	± 0.5	16	+0.5/-0	26	± 1	5	+0.4/-0.2	8	± 1	3.5
200	254	± 1.5	256	± 1.5	11	± 0.3	5	± 0.5	18	+0.5/-0	30	± 1	6	+0.5/-0.3	21	± 1	4
250	308	± 1.5	310	± 1.5	11	± 0.3	5	± 0.5	18	+0.5/-0	32	± 1	6	+0.5/-0.3	23	± 1	4
300	364	± 1.5	366	± 1.5	12	± 0.3	5.5	± 0.5	20	+0.5/-0	34	± 1	7	+0.5/-0.3	24	± 1	4.5
350	418	± 2	420	± 2	12	± 0.3	5.5	± 0.5	20	+0.5/-0	34	± 1	7	+0.5/-0.3	24	± 1	4.5
400	473	± 2	475	± 2	13	± 0.3	6	± 0.5	22	+0.5/-0	38	± 1	8	+0.5/-0.3	27	+1/-2	5
450	526	± 2	528	± 3	13	± 0.3	6	± 0.5	22	+0.5/-0	38	± 1	8	+0.5/-0.3	27	+1/-2	5
500	581	± 3	583	± 3	14	± 0.3	6.5	± 0.5	25	+0.5/-0	42.5	+1/-2	9	+0.5/-0.3	30	+1/-2	5.5
600	690	± 3	692	± 3	15	± 0.3	7	± 0.5	27	+0.5/-0	46.5	+1/-2	10	+0.5/-0.3	33	+1/-2	6

## Vedlegg 8

# Trykkskjema



DN [mm]	Utvendig Rør Diameter [mm]	EN545:2010 C30		EN545:2010 C40		EN545:2010 C50		EN545:2010 C64		EN545:2010 C100		EN545:2006 K9*	
		Min. veggtykkelse [mm]	Maks. PFA / Driftstrykk [Bar]	Min. veggtykkelse [mm]	Maks. PFA / Driftstrykk [Bar]	Min. veggtykkelse [mm]	Maks. PFA / Driftstrykk [Bar]	Min. veggtykkelse [mm]	Maks. PFA / Driftstrykk [Bar]	Min. veggtykkelse [mm]	Maks. PFA / Driftstrykk [Bar]	Min. veggtykkelse [mm]	Maks. PFA / Driftstrykk [Bar]
80	98			3,0	16	3,5	16	4,0	16	4,7	30	4,7	30
100	118			3,0	16	3,5	16	4,0	16	4,7	30	4,7	30
150	170			3,0	16	3,5	16	4,0	16	5,9	22	4,7	22
200	222			3,1	16	3,9	16	5,0	22	7,7	22	4,8	22
250	274			3,9	16	4,8	16	6,1	22	9,5	22	5,2	22
300	326			4,6	16	5,7	20	7,3	20	11,2	20	5,6	20
400	429	4,8	16	6,0	16	7,5	16	9,6	16	14,8	16	6,4	16
500	532	5,6	16	7,5	16	9,3	16	11,9	16	18,3	16	7,2	16
600	635	6,7	16	8,9	16	11,1	16	14,2	16	21,9	16	8,0	16

Maks driftstrykk (PFA) oppgitt i tabellen over er basert på den strekkfaste pakningen og veggtykkelsen på røret, hvor sistnevnte kan være den begrensende faktor på maks driftstrykk (PFA).

\* Samme driftstrykk (PFA) gjelder for K10 EN545:2006