



Tyton-SIT Viper® Technical Data Sheet



Tyton-SIT Viper®

VIP-Polymers Ltd are recognised as the leading global manufacturers of Tyton-SIT self-restrained gaskets for ductile iron pipe. VIP have developed Tyton-SIT Viper® in response to developments in the industry standard BS EN 545: 2010 moving from 'K' classes to 'preferred class'.

Reduced time and material costs

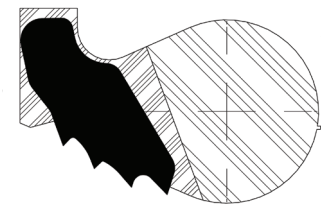
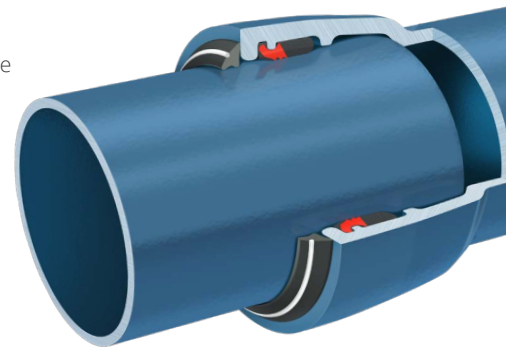
Designed to suit Tyton® sockets, Tyton-SIT Viper® self restrained gaskets (DIN 28603) for ductile iron pipe provide a number of time a cost savings compared to other non-restrained alternatives:
Please check with the pipe manufacture that the pipe supplied is suitable for gaskets to DIN 28603.

Reduced number of components compared to flange connections and mechanical restraints

- Fewer products for distributors to stock / distribute
- Fewer products to install on site leading to reduced installation times and material costs

Removes the need for thrust blocks

- Trenches can be smaller, saving time and money
- No need for concrete - (saving money and eliminating the need for disposal of soil removed from trench)
- None of the associated downsides of concrete thrust blocks (difficult to pour in cold conditions, difficult to pour in confined spaces, systems cannot be tested until concrete has set).



DN	PFA (bar)	Pipe Class	Minimum Wall Thickness (mm)	Number of Restraining Teeth	Degree of Angular Deflection
80	16	40	3.0	4	3°
100	16	40	3.0	5	3°
125*	16	40	3.0	5	3°
150	16	40	3.0	7	3°
200	16	40	3.1	10	3°
250	16	40	3.9	15	3°
300	16	40	4.6	20	3°
350	16	30	4.7	25	2°
400	16	30	4.8	30	2°
450	16	30	5.1	24	2°
500	16	30	5.6	32	2°
600	16	30	6.7	40	2°

* DN125 available 2023

- Manufactured from EPDM in accordance with BS EN 545: 2010 and BS EN 598: 2007
- DN80 > 400 - Hardness: 81 (heel) / 54 (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
- Marker rings available on request
- Material fully WRAS approved and BS6920 compliant – up to 60°
- ACS approval applies to sizes DN80-DN400



EN 681-1

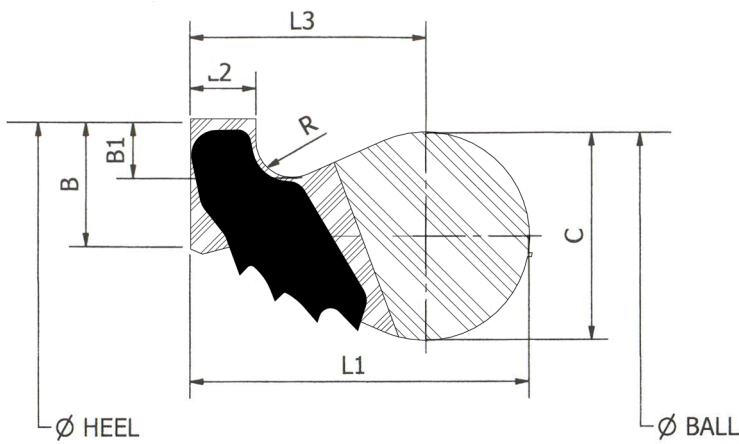


KTW W270





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

* DN125 available 2023

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

* DN125 available 2023

Information contained in this data sheet is up-to-date and correct as at the date of issue. We reserve the right to change any information without prior notice.

N.B. Nitrile (NBR) Viper gaskets are available for wastewater applications. Please contact the Technical Sales Team for further details - +44(0)1480 411333



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TYTON-SIT VIPER Pressure Rating Guide



DN	External Pipe Diameter		EN545:2010		EN545:2010		EN545:2010		EN545:2010		EN545:2010		EN545:2010		DN	External Pipe Diameter		EN545:2010 Pressure Pipes	
	Nominal	DN deviation	Class 40 (Minimum Wall Thickness mm)	VIPER Working Pressure Class 40 (PPA)	Class 50 (Minimum Wall Thickness mm)	VIPER Working Pressure Class 50 (PPA)	Class 64 (Minimum Wall Thickness mm)	VIPER Working Pressure Class 64 (PPA)	Class 80 (Minimum Wall Thickness mm)	VIPER Working Pressure Class 80 (PPA)	Class 100 (Minimum Wall Thickness mm)	VIPER Working Pressure Class 100 (PPA)	EN545:2010 (Minimum Wall Thickness mm)	VIPER Working Pressure EN545:2010 (PPA)		Nominal	DN deviation	Wall Thickness	VIPER Working Pressure (PPA)
90	90	+ V-07			3.2	16 bar	3.0	16 bar	4.0	16 bar	4.7	20 bar	4.7	20 bar	90	90	+ V-07	3.0	16 bar
100	110	+ V-08			3.2	16 bar	3.0	16 bar	4.0	16 bar	4.7	20 bar	4.7	20 bar	100	110	+ V-08	3.0	16 bar
100	170	+ V-08			3.2	16 bar	3.0	16 bar	4.0	16 bar	6.8	20 bar	4.7	20 bar	100	170	+ V-08	3.0	16 bar
100	220	+ V-08			3.2	16 bar	3.0	16 bar	6.0	20 bar	7.7	20 bar	4.8	20 bar	100	220	+ V-08	3.0	16 bar
100	274	+ V-04			3.2	16 bar	4.0	16 bar	4.1	20 bar	6.8	20 bar	4.8	20 bar	100	274	+ V-04	3.7	16 bar
100	326	+ V-03			4.0	16 bar	5.7	20 bar	7.3	20 bar	11.2	20 bar	4.8	20 bar	100	326	+ V-03	4	16 bar
100	378	+ V-04	4.7	16 bar	6.0	16 bar	6.0	20 bar	6.0	20 bar	10.0	20 bar	4.8	20 bar	100	378	+ V-04	4.0	16 bar
100	425	+ V-03	4.8	16 bar	6.0	16 bar	7.0	16 bar	6.6	16 bar	14.8	16 bar	6.4	16 bar	100	425	+ V-03	4.0	16 bar
100	480	+ V-04	5.1	16 bar	6.0	16 bar	8.4	16 bar	10.7	16 bar	16.0	16 bar	6.8	16 bar	100	480	+ V-04	4.0	16 bar
100	525	+ V-04	5.4	16 bar	7.0	16 bar	9.0	16 bar	11.0	16 bar	18.0	16 bar	7.2	16 bar	100	525	+ V-04	5.0	16 bar
100	575	+ V-03	6.7	16 bar	8.0	16 bar	11.1	16 bar	14.0	16 bar	21.0	16 bar	8.0	16 bar	100	575	+ V-03	5.0	16 bar



	Test 1, Positive internal hydrostatic pressure, joint of maximum annulus, aligned with shear load.		Test 2, Positive internal hydrostatic pressure, joint of maximum annulus, deflected.		Test 3, Cyclic internal hydraulic pressure, joint of maximum annulus aligned with shear load.		Result, PFA
	Test Pressure	Result	Test Pressure	Result	Test Pressure	Result	
CLASS 40 (EN545:2010)	29 bar	PASS	29 bar	PASS	14.2-19.2 bar	PASS	39 bar
CLASS 50 (EN545:2010)	29 bar	PASS	29 bar	PASS	14.2-19.2 bar	PASS	22 bar
CLASS 64 (EN545:2010)	29 bar	PASS	29 bar	PASS	14.2-19.2 bar	PASS	22 bar
CLASS 100 (EN545:2010)	50 bar	PASS	50 bar	PASS	31-36 bar	PASS	22 bar
K9 (EN545:2006)	50 bar	PASS	50 bar	PASS	31-36 bar	PASS	22 bar