



PVC Large Bore Pressure Fittings

Product Range

INCLUDING:

- Solvent Weld Fittings
- Sizes 200mm - 375mm

PVC-U SCJ Systems

The FIP PVC-U large bore fittings range is a complete range of large diameter fittings for solvent cement jointing (SCJ) suitable for use in pressure applications.

Applications

- Pumped sewerage and effluent pipelines
- Potable water
- Irrigation and turf watering
- Slurry transport
- Pressure sewerage
- Water supply
- Recycled water



Features & Benefits

PVC-U has excellent chemical resistance

PVC-U is basically inert to most inorganic bases, acids, saline solutions and paraffinic/aliphatic hydrocarbons. However, it is not recommended for use with polar organic solvent, including chlorinated and aromatic types.

The unique molecular structure grants a low coefficient of thermal conductivity

$\lambda = 0,15 \text{ W/m}^\circ\text{C}$ according to ASTM C177. It virtually eliminates condensation and offers superior heat retention, reducing heat loss through piping walls.

Low permeability to oxygen and reduced water absorption

0,1% at 23°C according to ASTM D 570.

Good resistance to ageing

Thanks to the chemical and physical properties of the PVC-U resin.

All components are suitable for conveying potable water

The basic PVC-U resin used for manufacturing fittings is NSF approved.

The material has excellent mechanical characteristics and good impact strength

These properties make PVC-U suitable for high service pressures. Depending on the fitting, pressure ratings up to PN 16 at 20°C are available.

PVC-U materials have good fire performance

The flash ignition temperature is 399°C and flame persists only in extreme conditions, e.g. if the oxygen concentration is two times higher than the atmospheric one, or only in the presence of an external flame source. Limiting Oxygen Index: 45% Class UL 94 rating: V0.

Product Properties

Size Range

DN 200 – DN 375

Pressure Class

PN4, PN5, PN8, PN10 and PN16

Location

Underground or above-ground where not exposed to direct sunlight.

Temperature

Maximum operating temperature of PVC-U is 60°C.

Materials

PVC-U

Chemical

Please refer to the Vinidex Chemical Resistance guide on the Vinidex website www.vinidex.com.au.

Certifications and Approvals

Standards

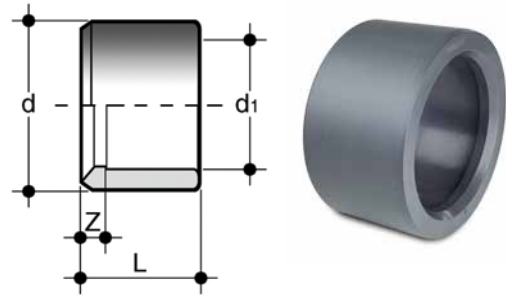
The fittings are compatible with Series 1 PVC-U pressure pipes manufactured to AS/NZS 1477 and Series 1 PVC-M pressure pipes manufactured to AS/NZS 4765. The fittings range is produced using PVC-U resins compliant with the standards EN ISO 1452 and ISO 4422 and in observance of the requirements of DIN 8063 and EN ISO 15493 for the use of plastic pipes in industrial processes. The fittings are produced in accordance with the highest quality standards and in full observance of the environmental practices imposed by current legislation and ISO 14001. All products are manufactured in accordance with ISO 9001 certified quality assurance programme.

Installation

Standards

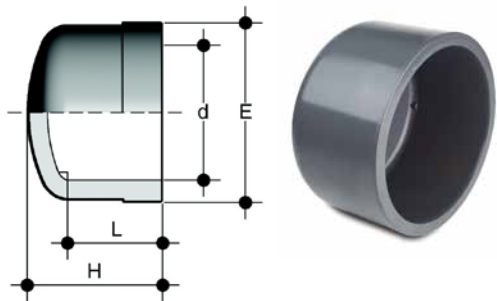
Vinidex recommends that PVC-U SCJ pressure pipes are installed in accordance with AS 2032 – Installation of PVC pipe systems. Please refer to the Vinidex website for more information on Installation and Jointing www.vinidex.com.au.

For more information please contact Vinidex or visit the FIP website www.fipnet.com.



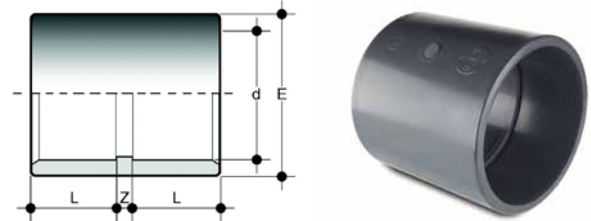
CAT 5 Reducing Bushes SCJ

Vinidex Code	Nominal Size (mm)	PN	d (mm)	d1 (mm)	L (mm)	Z (mm)	Approx. Weight (kg)
34580	200-150	16	225	160	119	33	
30409	225-150	10	250	160	132	45	1.7
30410	225-200	10	250	225	132	12	1.7
30411	250-200	10	280	225	147	27	4.3
30412	250-255	4	280	250	147	15	2.5
30414	300-200	10	315	225	165	45	5.5
30415	300-225	10	315	250	165	33	6.3
30416	300-250	10	315	280	165	18	3.55
30417	300-150	10	315	160	-	-	2.05
30418	375-250	5	400	250	206	15	9.2
30419	375-300	5	400	315	206	42	13.1



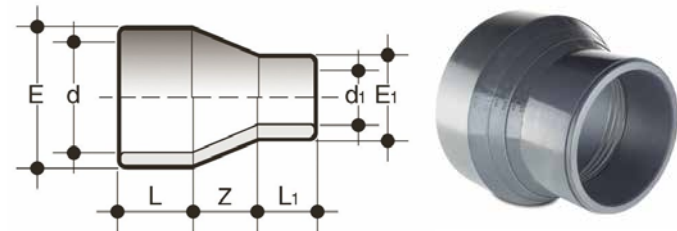
CAT 6 End Cap SCJ

Vinidex Code	Nominal Size (mm)	PN	d (mm)	L (mm)	Z (mm)	E (mm)	Approx. Weight (kg)
34705	200	10	225	119	163	260	4.1



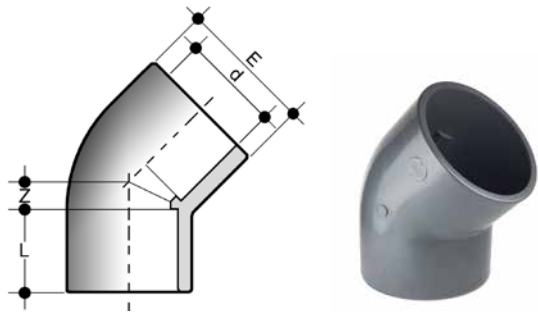
CAT 7 Couplings SCJ

Vinidex Code	Nominal Size (mm)	PN	d (mm)	L (mm)	Z (mm)	E (mm)	Approx. Weight (kg)
30404	200	16	225	119	11	260	2.4
30405	225	10	250	131	10	286	5.45
30406	250	10	280	146	10	320	6.68
30407	300	10	315	164	12	355	8.3
30408	375	5	400	206	12	432	8.3



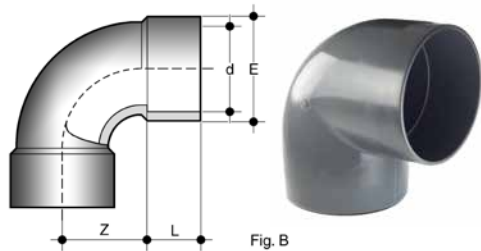
CAT 8 Reducing Couplings SCJ

Vinidex Code	Nominal Size (mm)	PN	d (mm)	D1 (mm)	L (mm)	L1 (mm)	Z (mm)	E (mm)	E1 (mm)	Approx. Weight (kg)
30327	200-150	4	225	160	103	86	57	258	190	2.2
30425	225-200	4	250	225	105	103	22	283	258	4.5
30426	250-200	4	280	225	101	103	47	317	258	7
30427	250-225	4	280	250	101	105	26	317	283	7
30355	300-150	4	315	160	105	86	135	355	190	10.5
30428	300-200	4	315	225	105	103	79	355	258	10.5
30429	300-225	4	315	250	105	105	57	355	283	10.5
30430	300-250	4	315	280	105	101	31	355	317	10.5
30431	375-300	4	400	315	105	105	40	435	355	12



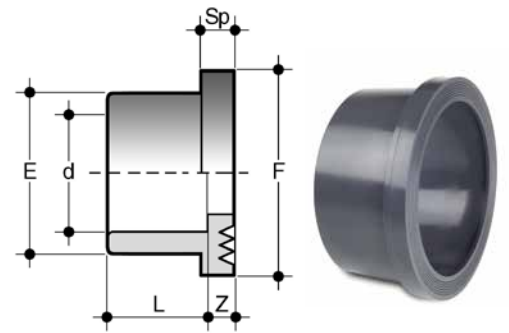
CAT 10 - 45° Elbows SCJ

Vinidex Code	Nominal Size (mm)	PN	d (mm)	L (mm)	Z (mm)	E (mm)	Approx. Weight (kg)
30388	200	10	225	121	55	260	4.9
30389	225	10	250	131	58	286	7.15
30390	250	10	280	146	62	320	10.8
30391	300	8	315	164	66	359	14.9
30392	375	5	400	206	83	439	23.9



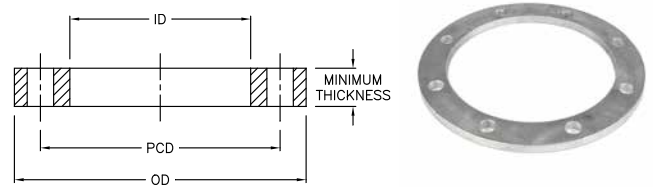
CAT 13 - 90° Elbows SCJ

Vinidex Code	Nominal Size (mm)	PN	d (mm)	L (mm)	Z (mm)	E (mm)	Approx. Weight (kg)
30381	200	16	225	119	171.5	258	8.7
30382	225	16	250	131	188	287	9.5
30383	250	10	280	147	210	325	15.7
30384	300	8	315	164	236	359	21.2
30385	375	5	400	206	202	439	35



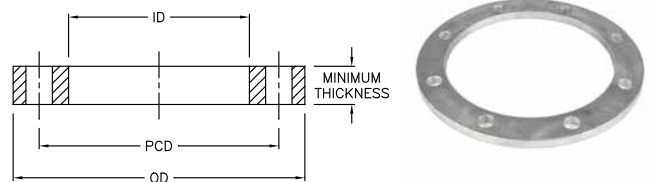
Stub Flange SCJ

Vinidex Code	Nominal Size (mm)	PN	d (mm)	F (mm)	L (mm)	Sp (mm)	Z (mm)	E (mm)	Approx. Weight (kg)
30420	200	16	225	273	119	25	5.5	245	1.74
30421	225	16	250	306	131	20	8.5	270	2.15
30422	250	10	280	327	147	32	14.5	307	3.04
30423	300	10	315	377	165	32	16	346	4.58
30424	375	4	400	483	206	30	12	432	8.9



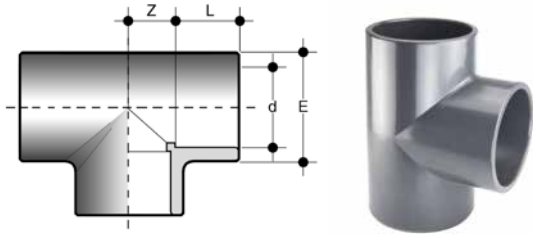
Backing Rings Galvanised – Table D (Reduced Thickness)

Vinidex Code	Nominal Size (mm)	OD (mm)	ID (mm)	Min. Thickness (mm)	PCD (mm)	No. Bolts	Approx. Weight (kg)
83454	200	335	252	12	292	8	M16
83455	225	370	278	12	324	8	M16
83456	250	405	309	12	356	8	M20
83457	300	455	349	12	406	12	M20
83617	375	-	-	-	-	-	-
83458	400	500	434	12	521	12	M24



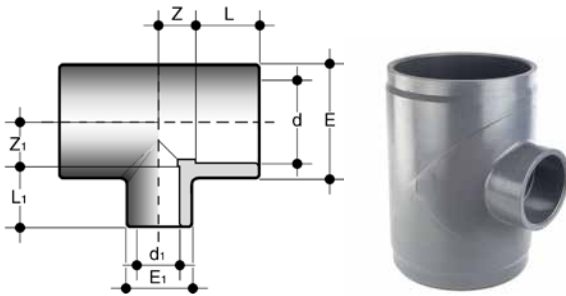
Backing Rings Galvanised – Table E

Vinidex Code	Nominal Size (mm)	OD (mm)	ID (mm)	Min. Thickness (mm)	PCD (mm)	No. Bolts	Approx. Weight (kg)
83560	200	335	252	19	292	8	M20
83580	225	370	278	22	324	12	M20
83585	250	405	309	22	356	12	M20
83453	375	-	-	-	-	-	-
83590	300	455	349	25	406	12	M24
83618	375	-	-	-	-	-	-
83591	400	500	434	32	521	12	M24



CAT 3 - Tees

Vinidex Code	Nominal Size (mm)	PN	d (mm)	L (mm)	Z (mm)	E (mm)	Approx. Weight (kg)
30393	200	16	225	119	114	258	9.8
30394	225	10	250	131	128	286	12.5
30395	250	10	280	146	144	319	18.2
30396	300	10	315	164	162	360	24.7
30397	375	5	400	206	280	432	39.5



CAT 4 - Reducing Tees

Vinidex Code	Nominal Size (mm)	PN	d (mm)	d1 (mm)	L (mm)	L1 (mm)	Z (mm)	Z1 (mm)	E (mm)	E1 (mm)	Approx. Weight (kg)
30436	200-150	10	225	160	129	87	86	129	285	193	4
30398	250-150	10	280	160	146	88	84	153	320	193	16.2
30399	250-200	10	280	225	146	117.5	117	150.5	320	320	18.2
30400	300-150	8	315	160	164	86	83	161	355	355	22.3
30401	300-200	8	315	225	164	106	102	179	355	355	30.3
30387	300-225	8	-	-	-	-	-	-	-	-	-
30403	375-300	5	400	315	-	165	280	302	432	432	32

Priming Fluid

Vinidex Code	Volume	Min. (Pack) Quantity	Carton Quantity
82341	250ml	1	36
82342	500ml	1	20
82343	1L	1	12
82344	4L	1	4
82345	20L	1	1



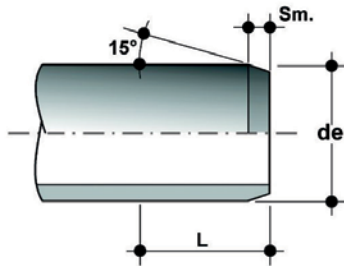
Large Bore Pressure Cleaner & Gap-Filling Solvent Cement

Vinidex Code	Volume	Min. (Pack) Quantity	Carton Quantity
30432	1L	1	6



Rigid PVC-U Pipes and Fittings Theoretical Solvent Cement Consumption

Nominal Diameter Pipe (mm)	Pipe/Fitting diameter OD (mm)	Number of Joints per 1 Ltr of Solvent Cement	Number of Joints per 1 Ltr of Priming Fluid
200	225	6	50
225	250	4	30
250	280	2	24
300	315	2	24
375	400	1	16



Socket Depth, Cement and Chamfer Length

Nominal Diameter Pipe (mm)	Pipe OD de (mm) Metric Series	Cementing length L (mm) Metric Series	Chamfer Sm (mm)
200	225	119	5/6
225	250	131	5/6
250	280	146	5/6
300	315	164	5/6
375	400	206	5/6

Recommendations

In the case where the external diameter of the pipe and the internal diameter of the fitting are at opposite extremes of their tolerance values, the dry pipe cannot be inserted in the dry socket of the fitting. Insertion will only be possible after having applied the Vinidex Priming Fluid and Type G Solvent Cement to both parts to be joined.

The Vinidex Solvent Cement is manufactured from the same PVC resin used for the production of the pipes, fittings and valves. Unless otherwise specified, the solvent cement used on the surfaces to join must also be usable with the following tolerances:

- maximum interference 0.2 mm.
- maximum clearance 0.6 mm.

When using the Vinidex Priming Fluid and Solvent Cement, the following precautions should be adopted:

- Use gloves and safety glasses to protect hands and eyes.
- Use the Vinidex Priming Fluid and Solvent Cement in a working environment with sufficient ventilation to avoid the formation of pockets of air containing concentrations of evaporated solvent, which can irritate the respiratory tract and eyes.
- Due to the volatile nature of the solvents in the priming fluid and solvent cement, the containers must be closed immediately after use.
- Solvents in the gaseous phase tend to form flammable mixtures. Therefore, remove any ignition sources such as welding operations, accumulation of electrostatic charges, etc. from the work area, and do not smoke. In all cases, it is advisable to adhere strictly to the Vinidex Solvent Cement manufacturer’s instructions written on the packaging.
- In order to prevent a deterioration in the performance of the Vinidex Priming Fluid and Solvent Cement, the joining operations should be carried out within an ambient temperature range of between + 5 and + 40° C.

The amount of Vinidex Solvent Cement used on the joints depends on a number of factors (environmental conditions, pipe size, cement viscosity, operator experience, etc.) For more information please contact Vinidex.

After having completed all the joints and prior to putting the lines into service, make sure that the insides of the pipes and fittings are completely free of any solvent traces/ vapours. This will prevent contamination of the fluids conveyed.

Table “Most common defects” below reports the most common types of defect found if the correct solvent welding procedure is not followed.

Most Common Defects

Solvent Cement too fluid (incorrect diluent addition)	
Immediate effect	Cement failure
Consequence	Joint separation or leaks from between the pipe and fitting
Excess solvent cement	
Immediate effect	Internal and external runs beyond the joint zone.
Consequence	Weakening of the outer surface of the joint area and formation of bubbles with micro-cracks/ sources of fracture in the base material
Excessively dense solvent cement due to evaporated solvent	
Immediate effect	Cementing failure
Consequence	Joint separation or leaks from between the pipe and fitting. Possible surface cracks triggering cracks in the base material
Insufficient and/or incorrect distribution of solvent cement	
Immediate effect	Cementing failure or local weakness
Consequence	Joint separation or leaks from between the pipe and fitting
Incorrect pipe insertion (incomplete, excessive, misaligned)	
Immediate effect	Imperfect Joint
Consequence	Transmission of mechanical stresses from the pipe to the fitting and/or leaks from the joint
Impurities and/or humidity on the surfaces of the parts to join	
Immediate effect	Imperfect Joint
Consequence	Joint separation or leaks (fluid seepage) from between the pipe and fitting

Solvent welding instructions

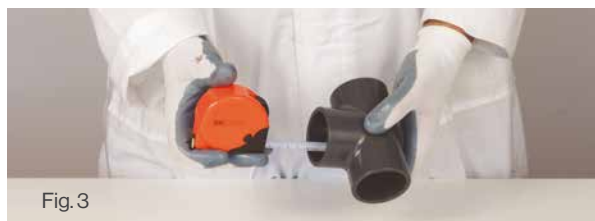
1) Cut the pipe perpendicular to its axis to obtain a clean square section, preferably using a wheeled pipe cutter designed specifically for thermoplastic pipes (Fig. 1).



2) Chamfer the outer edges of the pipe in order to ensure that it enters the socket of the fitting at an angle of 15°. The chamfering operation must be carried out at all costs, otherwise the lack of chamfer can lead to the Vinidex Solvent Cement being scraped off the surface of the fitting. (Fig. 2)



3) Measure the depth of the socket of the fitting to the internal shoulder and mark the corresponding distance on the end of the pipe (Fig. 3 and 4). For more details, refer to the "Socket depth, cement and chamfer length" table. (Page 8)



4) Using a clean paper towel or applicator soaked in Vinidex Priming Fluid, remove any traces of dirt or grease from the outer surface of the pipe for the entire cementing length. Repeat the same operation on the internal surface of the socket of the fitting: leaving the surfaces softened (Fig. 5).



Leave the surfaces to dry for a few minutes before applying the Vinidex Type G Solvent Cement. Remember that, in addition to cleaning the joint surfaces, the Vinidex Priming Fluid also performs the important role of softening and preparing the surface to receive the solvent, an operation that enables a perfect joint to be obtained.

5) Apply the Vinidex Type G Solvent Cement in a uniform manner longitudinally over both parts to be assembled (outer surface of the pipe and internal coupling surface of the fitting) using an applicator or suitably sized coarse brush.

It is advisable to use an applicator/brush of dimension not less than half the diameter of the pipe. The Vinidex Type G Solvent Cement must be applied along the entire length of the joining surface of both the pipe and the fitting:

- for the entire joint length of the pipe previously marked on the outer surface (Fig. 6)
- for the entire depth of the socket as far as the internal shoulder (Fig. 7)



6) Fully insert the pipe into the fitting. (Fig. 8)



7) The pipe must be inserted in the fitting as soon and as quick as possible (after no more than 20-25 seconds is recommended).

8) Immediately after fully inserting the pipe in the fitting, apply pressure to the joined parts for a few seconds. Then use a clean cloth to remove any excess solvent cement from the outer surfaces, and from internal surfaces where possible (Fig. 9).



9) Vinidex Type G Solvent Cement drying: the joined parts must be left to stand in order to allow the solvent cement to set naturally without generating any unnecessary stress.

The setting time depends on the amount of stress that the joint will be placed under. In particular, the following minimum setting times must be respected according to the ambient temperature:

- before handling the joint:
 - from 5 to 10 minutes for ambient T. > 10°C
 - from 15 to 20 minutes for ambient T. < 10°C
- for repair joints on pipes of any size or pressure not subject to hydraulic testing:
 - 1 hour for each atm of applied pressure
- for joints in pipes and fittings of any diameter subject to pressure testing up to PN 16:
 - minimum 24 hours

The solvent cement setting times indicated are valid at ambient temperature (approx. 25°C.). For particular climatic conditions (humidity, temperature, etc...), we recommend you contact our technical services department for more information. (Fig. 10)



Notes

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Leading the way, from the ground up.

For over six decades, we've been leading the way – setting the industry benchmark for pipeline systems and solutions. Our legacy spans across building, infrastructure, and agriculture sectors. We make life flow with groundbreaking, high-quality products, connecting everything from water, gas and energy throughout Australia.

Today, we maintain our commitment to innovative solutions that meet our customers' needs and exceed their expectations. Core to our approach are smarter solutions that are more sustainable throughout the manufacturing process and over their lifetime. Globally backed by Aliaxis, and a wide-reaching national footprint, our team of passionate technical experts support our customers throughout their projects – working to deliver solutions for today and the future.

Vinidex. We make life flow.

Vinidex Pty Limited

ABN 42 000 664 942

HEAD OFFICE

Level 4, 26 College Street
Darlinghurst NSW 2010
PO Box 747, Darlinghurst, NSW, 1300

Customer Service

Phone: 13 11 69
Fax: 13 24 43
Email: sales@vinidex.com.au
Web: www.vinidex.com.au



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