

Product Description

2.4 Other Pipe Standards

In addition to the above Dyka will manufacture pipe to most European national standards on specific request. Please refer to the technical department of Dyka for details.

Copies of all quality standards mentioned are available on application to Dyka.

2.5 Metric and Imperial Sizes

It is important to note that metric and imperial pipework are two distinct systems, they are not manufactured to compatible dimensions and cannot be interconnected without special adaptors.

Dyka manufacture and supply metric to imperial adaptor couplings for both solvent cement and ring seal jointing.

2.6 Pipe Length

Imperial dimension pressure pipes and metric pipes to WIS 4.31.06 are supplied as standard in nominal lengths of 6 metres. All other metric dimension pipes are supplied in standard nominal lengths of 5 metres.

The nominal pipe length is not the working length, as this depends on the jointing method being employed.

Special lengths can be supplied to specific order providing the quantity constitutes a reasonable production run. Contact your distributor or the technical department of Dyka for further information.

2.7 Pipe Colour

All Dyka imperial and metric pressure pipes, with the exception of those in accordance with WIS 4.31.06 are manufactured in industrial grey (colour reference RAL 7011).

WIS 4.31.06 pipework is blue colour coded for potable water (colour reference BS4901: 20 E54).

Metric pipes to KIWA 49 can be supplied in natural PVC-u, cream colour.

Pipework in other colours can be produced against specific requirements providing the quantity constitutes a reasonable production run. Contact your distributor or the technical department of Dyka for further information.

Product Description

2.9 Joint Descriptions

All Dyka PVC-u pressure pipe systems employ one of three jointing methods as described below. For detailed jointing and installation instructions refer to section 6 of this guide.

2.9.1 Loose couplers

Plain ended, chamfered pipe is jointed using double socket loose couplers. These either incorporate ring seals or are for solvent weld (chemical) bonding.

Jointing using loose couplers has the advantage that the nominal length of pipe supplied is exactly the working length. No meterage is lost in making the joint.

However, as pipe has to be offered into each side of the coupler, two separate joints have to be made per length. This will increase installation costs.

As a general rule the use of loose couplers is the most expensive method of jointing pipe, except on the very largest of diameters (400mm and over) where the saving in pipe meterage off-sets a good proportion of the coupling costs.

2.9.2 Integral solvent weld joint

One spigot end of a plain ended length of pipe is formed into a bell end. This allows the spigot end of the next length of pipe to be inserted for solvent weld (chemical) bonding. Only one joint has to be made per length.

The effective length of a piece of pipe is reduced from its nominal length by the depth of the belled socket.

Pipe incorporating this type of joint is generally the most competitively priced. However, installation is more time consuming than with a ring seal jointed system.

Please refer to section 6 for detailed solvent weld jointing instructions.

2.9.3 Integral ring seal joint

One spigot of a plain ended length of pipe is formed into a bell end which incorporates a seat into which is set a synthetic rubber seal ring. Only one joint has to be made per length.

The sealing ring may be of the "Forsheda" type for imperial and metric pipes. Metric pipes may also use the "Anger" or "Bode" type. All three types of ring seal are widely used and are approved by the WRC. The jointing method used on imperial pipes is to BS 4346 Part 2 and the seal material is to BS 2494.

The effective length of a piece of pipe is reduced from its nominal length by the depth of the belled socket.

Ring seal jointing is the quickest method of installation and so consequently has the lowest installation costs.

4. Characteristics PVC-u Pipe

4.1 Potable Water

Dykapipe is manufactured to meet all of the requirements of BS 6920, BS 3505 and ISO 727, making it suitable for the supply of all cold water services including potable water. Dyka manufactured PVC-u pipe will not impart taint or taste to potable water and has been toxicologically approved by:

The Department of the Environment - Committee on chemicals and materials of construction for use in public water supply and swimming pools (DOE - CCM)

Wrc - Water byelaws advisory service

KIWA - Attest

World health organisation (WHO)

4.2 Weather Resistance

The pipe is protected against some of the harmful effects of sunlight by the use of opacifiers in the pipe formulation. Despite this Dykapipe should not be stored in direct sunlight for periods in excess of 1 to 2 months (see section 5.2 Handling, storage and transport).

Refer to sections 9.17 and 9.18 for details on the protection of PVC-u pipe from long exposure to sunlight.

4.3 Properties of PVC-u

General

Specific gravity:	1.4g/mm ³
Opacity:	less than 0.2%
Water absorption:	0.12% in 24hrs @ 23°C

Mechanical

Ultimate tensile strength:	50 N/mm ²
Compressive strength:	66 Mpa
Impact - DIN 53453:	5kg cm/cm notch
Elastic modulus in bend:	3000 Mpa
Brinell hardness @ 230°C:	12 - 15
Poisson's ratio:	0.35
Flexural strength:	70 - 110 Mpa
Elongation at break @ 230°C:	80 - 150%
Fracture toughness in excess of:	3.75 n/mm ²
(against method C.3..1. BS 3505: 1986)	

Electrical

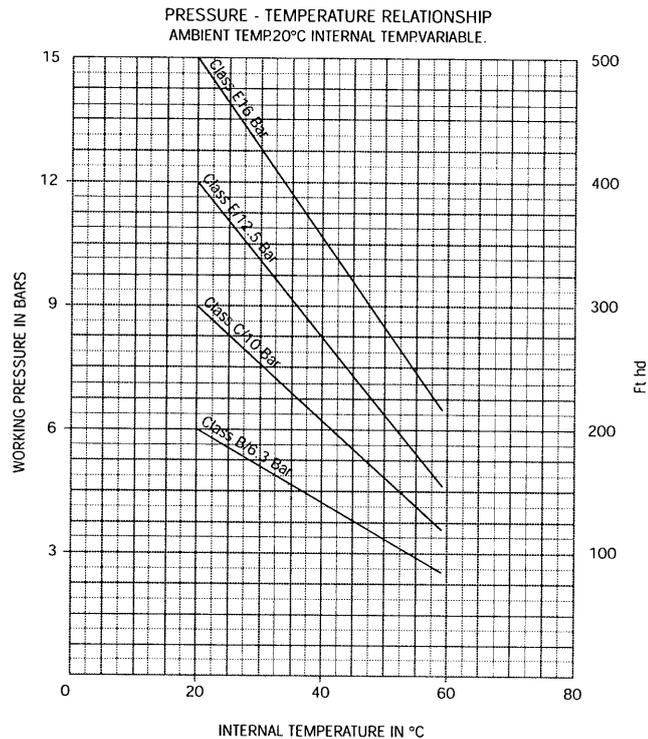
Volume resistivity:	1050 Ohms/cm ³
Breakdown voltage:	30 kv/mm
Power factor:	0.02 at 800 Hz
Dielectric constant:	3.4 at 800 Hz

Thermal

Processing temperature	1500 - 1800 C
Coefficient of thermal expansion:	0.06 mm/mk
Thermal conductivity:	0.16 w/mk
Specific heat:	10500C
Softening point:	800C
(BS 2782 method 120B)	
Flammability:	Self extinguishing

Characteristics PVC-u Pipe

Figure 10



Where fluctuating temperatures may be experienced (as may occur with hot effluent disposal applications), the pipeline design must accommodate both the de-rated working pressure and stress induced by pipeline expansion and contraction.

4.6 Flow Characteristics and Head Loss

In any pipeline a certain amount of fluid pressure will be lost or dissipated due to the effects of friction or disturbance of the fluid load against the internal pipe wall.

These friction or head losses can be categorised into two areas. General head loss being the decrease in applied pressure due to the friction of the fluid load against the internal pipe wall and Point losses caused by the interruption of the smooth fluid flow by a fitting.

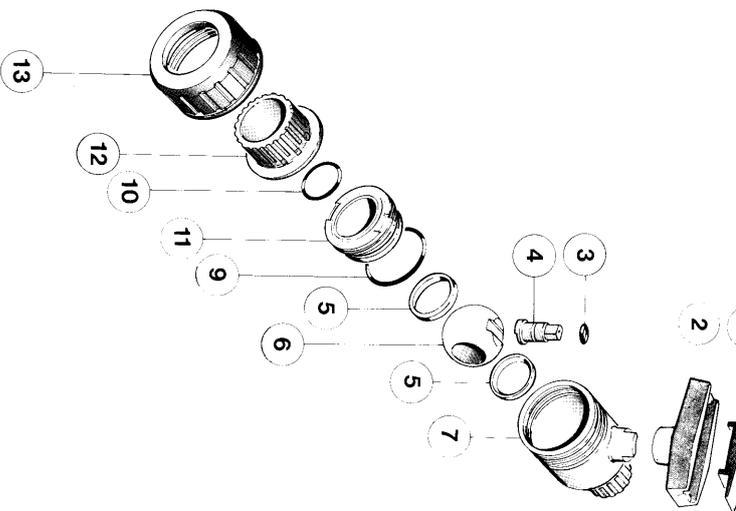
4.6.1 General Head Loss

The consistently smooth bore of Dyka PVC-u pipe means that very low flow resistance is experienced in the pipe.

In addition the long term build up of accretion on the bore of the pipe is virtually nil because of its smooth walls and non-corrosive nature. This alleviates the need to increase pumping power over time as required in systems of more traditional materials.

As a result of these efficient flow characteristics, economies can be achieved over traditional materials by the use of smaller diameters to give equivalent flow rates or by greater flow rates being achieved through PVC-u pipes of the same diameter.

Any liquid will lose some pressure or head as it flows along the pipe and this must be accommodated in the design of the pipe system. Given any two of the three variables: head loss, pipe diameter or flow rate, the third unknown variable can be determined using figure 11.



Pos.	Componenti	Materiale	Q.tà	Pos.	Componenti	Materiale	Q.tà
1	inserto maniglia	PVC	1	1	outil pour démontage	PVC	1
2	maniglia	ABS	1	2	poignée	ABS	1
3	quanzione asta comando	EPDM	1	3	joint de la tige de manoeuvre	EPDM	1
4	asta comando	PVC	1	4	tige de manoeuvre	PVC	1
5	quanzione della sfera	PTFE	2	5	garniture de la sphere	PTFE	2
6	sfera	PVC	1	6	sphere	PVC	1
7	cassa	PVC	1	7	corps	PVC	1
8	quanzione (O-ring) tenuta radiale	EPDM	1	9	joint du corps (O-ring)	EPDM	1
9	quanzione (O-ring) tenuta di testa	EPDM	1	10	joint du collet (O-ring)	EPDM	1
10	supporto della quanzione della sfera con anello di ferro	PVC	1	11	support de la garniture de la sphere avec bague de fermeture	PVC	1
11	manicotto	PVC	1	12	collet	PVC	1
13	ghiera	PVC	1	13	écrou-union	PVC	1

* pezzi di ricambio

* pièces de rechange

Pos.	Componenti	Materiale	Q.ty	Pos.	Benennung	Werkstoff	Menge
1	insert	PVC	1	1	Schlüssel-Einsatz	PVC	1
2	handle	ABS	1	2	Handgriff	ABS	1
3	stem O-ring	EPDM	1	3	O-Ring	EPDM	1
4	stem	PVC	1	4	Spindel	PVC	1
5	ball seat	PTFE	2	5	Dichtungen	PTFE	2
6	ball	PVC	1	6	Kugel	PVC	1
7	body	PVC	1	7	Gehäuse	PVC	1
8	O-ring radial seal	EPDM	1	9	O-Ring	EPDM	1
9	O-ring socket seal	EPDM	1	10	Dichtungsträger mit Gewindefring	EPDM	1
10	support for ball seat with stop ring	PVC	1	11	Anschlagsblei	PVC	1
11	end connector	PVC	1	12	Überwurfmutter	PVC	1
13	union nut	PVC	1	13	Überwurfmutter	PVC	1

* spare parts

* Ersatzteile

Valvola a sfera in PVC

- Gamma dimensionale da d 16 mm a d 110 mm, da R 3/4" a R 4"
- Sistema di giunzione per incollaggio e per filatura
- Resistenza a pressioni di esercizio fino a 16 bar a 20° C, per il dettaglio vedere pagina seguente
- Facile disassemblamento radiale dall'impianto e conseguente rapida sostituzione degli O-ring e delle guarnizioni della sfera senza l'impiego di alcun attrezzo
- Ingombro ridotto
- Possibilità di smontaggio delle tubazioni a valle con la valvola in posizione di chiusura
- Nuovo sistema di tenuta
- Maniglia ergonomica predisponibile con chiave di registro
- Disponibile su richiesta i connettori CVD per giunzioni con manometri elettrici o testa a testa
- Idoneità del PVC impiegato a venire in contatto con acqua potabile ed altre sostanze alimentari secondo le leggi vigenti.

PVC ball valve

- Size range from d 16 mm up to d 110 mm and from R 3/4" up to R 4"
- Joining by solvent welding or threaded connections
- Maximum working pressure: 16 bar at 20° C, for full details see following page
- Easy removal of the valve body from the system allowing quick replacement of O-rings and ball seats without additional equipment
- Compact design
- In the closed position the pipeline can be disconnected downstream from the valve without leakage
- New seat and seal design
- Block with adjustment of ball seal
- Ergonomic handle with seal adjustment key
- Available on request the end connectors CVD for electric fusion or butt weld
- FIP PVC is suitable for conveying foodstuffs and drinking water and meets the necessary standards and regulations

Robinet à tournant sphérique en PVC

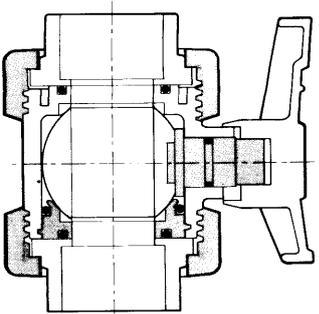
- Gamme dimensionnelle de d 16 mm à d 110 mm, de R 3/4" à R 4"
- Jonction par collage aussi bien que par filature
- Pression de service jusqu'à 16 bar à 20° C, voir les détails voir page suivante
- Démontage radial du corps du robinet qui permet un remplacement rapide des joints O-ring et des caissons garnitures, sans utiliser aucun outil
- Encombrement minimal
- En position fermée, le robinet permet le démontage de l'installation en aval par rapport à la direction du flux
- Conception de nouveaux sièges et joints à élasticité réglable
- Système rotatif de blocage de la sphère
- Volant ergonomique avec clef de réglage de l'élasticité
- Les embouts CVD pour soudure par électrofusion ou sur demande
- PVC de qualité alimentaire apte à l'utilisation avec l'eau potable et les éléments suivant les règlements en vigueur.

Kugelhahn aus PVC-U

- Größen von d 16 mm bis von R 3/4" bis R 4"
- Mit Klebe- oder Gewinnschlüssen
- Der maximale Betriebsdruck beträgt 16 bar bei 20° C, siehe Einzelheiten auf Seite
- Der einfache Austausch aus dem Leittubensystem erlaubt den schnellen Wechsel von O-Ringen oder Packung ohne zusätzliches Werkzeug
- Kompakte Bauform
- In geschlossener Stellung kann die Installation im Kugelhahn nach dem Fluss der Leitung getrennt werden
- Neues Sitz- und Dichtsystem durch eine Kugelblockierung
- Ergonomischer Handgriff mit Verstellmöglichkeit
- Auf Anfrage sind Sonderanschlüsse für Heizungsanlagen, Heizleitungsstumpfen, Schweißleitungen
- FIP PVC entspricht den Vorschriften um Trinkwasser oder anderen Verzeihern zugänglich.

LEGENDA

d	diámetro nominale esterno del tubo in mm	DN	diámetro nominal interno in mm	d	diámetro exterior nominal del tubo en mm	DN	diámetro nominal interior en mm	d	Portmaß/Portdurchmesser
R	dimensione nominale della filettatura in pollici	R	nominal size of the thread in inches	R	dimension nominale du filetage en pouces	R	dimension nominale du filetage de l'écrou	R	Gewinde (DN)
PN	pressione nominale in bar (pressione max di esercizio a 20° C - acqua)	PN	nominal pressure in bar (max. working pressure at 20° C - water)	PN	pression nominale en bar (pression max de service max à 20° C - eau)	PN	pression nominale en bar (pression max de service max à 20° C - eau)	PN	Nenndruck, bei max. Betriebsdruck
g	peso in grammi	g	weight in grams	g	poids en grammes	g	poids en grammes	g	Gewicht in Gramm
PVC	cloruro di polivinile rigido	PVC	chloride polyvinyl	PVC	polychlorure de vinyle non plastifié	PVC	polychlorure de vinyle non plastifié	PVC-U	Polyvinylchlorid Weichmacher
CR	gomma cloroprene	CR	chloroprene rubber	CR	polychloroprène	CR	polychloroprène	CR	Polychloroprène
PE	polietilene	PE	polyethylene	PE	polyéthylène	PE	polyéthylène	PE	Polyethylen



d 16-110