

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

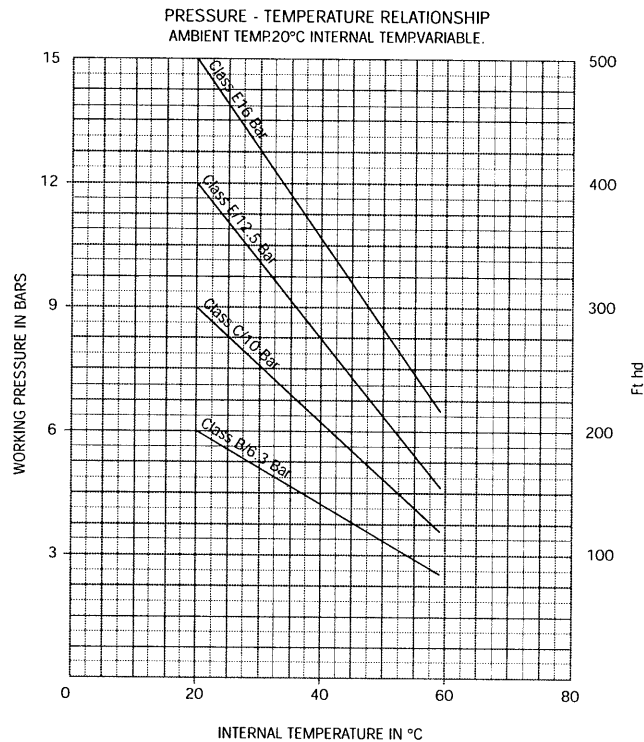
Volume resistivity:	1050 Ohms/cm ³
Breakdown voltage:	30 kv/mm
Power factor:	0.02 at 800 Hz
Dielectric constant:	3.4 at 800 Hz

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.

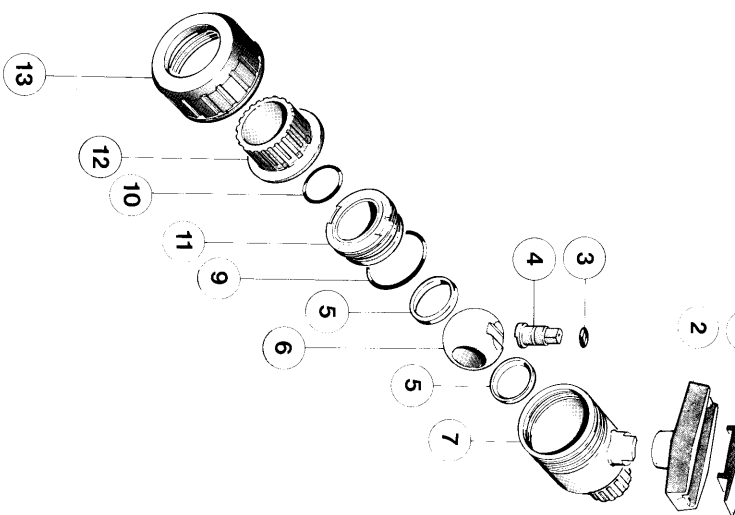
4.6.1 General Head Loss

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.	Composanti	Materiale	Q.tà	Pos.	Composanti	Materiale	Q.tà
1	inserto mangia	PVC	1	1	outil pour démontage	PVC	1
2	mangia	ABS	1	2	poupée	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	PVC	2
6	sfera	PVC	1	6	sphere	PVC	1
7	cassa	PVC	1	7	corps	PVC	1
9	quanzione (O-ring) tenuta radiale	EPDM	1	9	joint du corps (O-ring)	EPDM	1
10	quanzione (O-ring) tenuta di testa	EPDM	1	10	joint du collet (O-ring)	EPDM	1
11	supporto della quanzione della sfera con anello di fermo	PVC	1	11	support de la garniture de la sphere	PVC	1
12	manicotto	PVC	1	12	avec bague de fermeture	PVC	1
13	ghiera	PVC	1	13	collet	PVC	1
					écrou-union	PVC	1

Pos.	Components	Material	Q. ty	Pos.	Benennung	Werkstoff	Menge
1	insert	PVC	1	1	Schlüssel-Einsatz	PVC	1
2	handle	ASS	1	2	Handgriff	ASS	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
* 9	O-ring radial seal	EPDM	1	* 9	O-Ring	EPDM	1
*10	O-ring socket seal	EPDM	1	*10	O-Ring	EPDM	1
*11	support for ball seat with stop ring	PVC	1	*11	Dichtungsträger mit Gewindering	PVC	1
*12	and connector	PVC	1	*12	Anschubstiele	PVC	1
13	union nut	PVC	1	13	Überwurfmutter	PVC	1

- pièces de rechange

* spare parts

* Ersatzteile

Valvola a sfera in PVC

- Gamma dimensionale da d 16 mm a d 110 mm, da R 3/8" a R 4"

- Size range from d 16 mm up to d 110 mm and from R 3/8" up to R 4"

- Gamme dimensionnelle de d 16 mm à d 110 mm, de R 3/8" à R 4"

Kugelbahn aus PVC-U

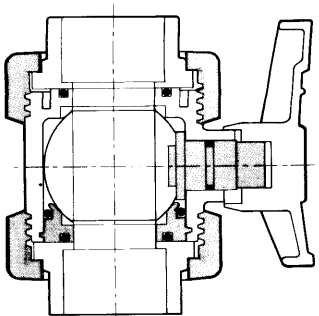
- Sistema di giunzione per molli
raggio e per l'aria condizionata fino a 16 bar a 20° C, per il dettaglio vedere pagina seguente
- Facile disinnescamento radicale
dell'impianto e conseguente
rapida sostituzione degli O-ring
e delle guarnizioni della stiera
senza l'impiego di alcun at-
trezzo
- Inombrato ridotto
- Possibilità di smontaggio delle
tubazioni a vule con la Valvole
in posizione di chiusura
- Nuovo sistema di tenuta
- Maniglia ergonomica disposi-
bile con chiave di registro
tenuta
- **Disponibile su richiesta i con-
nettori C/VE per giunzioni
con maniconti elettrici o testati
a testa**
- Idoneità del PVC, impiegato a
venire in contatto con acqua
potabile ed altre sostanze al-
imentari secondo le leggi vi-
genti.

- 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 seat
- Ergonomic handle with seal adjustment key
- **Available on request the end connectors CVD for electro-fusion or ball weld**
- FIP PVC is suitable for conveying foodstuffs and drinking water and meets the necessary standards and regulations

- Jonction par collage aussi bien que par filetage
- Pression de service jusqu'à 16 bar à 20° C, pour les dérivés voir page suivante
- Démontage (A) du corps du robinet qui permet un remplacement rapide des joints O-ring et des autres garnitures, sans utiliser **aucun** outil
- Entretien **très** 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 « tétanète »
- Système efficace de blocage de la spire
- Volant ergonomique avec clié de réglage du « tétanète »
- **Les embouts CVD pour soudures par électrofusion bout-à-bout sont disponibles sur demande**
- PVC de qualité alimentaire apte à l'utilisation avec l'eau potable et les effluents suivant les réglement, en vigueur.

schlüssen.
- Der maximale Bogen beträgt 16 bar bei einer mittleren Einzahlzahl Seite
- Der einlitzige Ausbauratur aus dem Leierlaten der schmale von O-Ringen oder ohne zusätzlicher -kompatie Bauteile
- In geschlossener Kugelhaush kann Seite der Leitung sein.
- Neues Sitz- und Design
- Die Kugelabzapf durch eine Micro- von Rohrlatten
- Ergonomischer Halteintegrations Montasiewiczung
- **Auf Anfrage sind**
- **Arbeits-Anschlüsse**
- **Heizungsarmaturen**
- **Heizungsarmaturen**
- **Spezialleitung**
- **PIP-PVC** entspricht den Vorschriften
- **Immer wieder**
- **den Verzicht** best

LEGENDA

[illegible]
$$d \ 16 \div 110$$