ashirvad

by aliaxis

AQUALIFE PLUMBING SYSTEM
FOR COLD AND POTABLE WATER
TECHNICAL MANUAL

NSF/ANSI 61

UIPC-I ™ UIPC-I ™

UV resistant

Pb

Design Registered
Only with Ashirvad

Aqualife

WARRANTY APPLICABLE ONLY IF ASHIRVAD PIPES, FITTINGS AND uPVC SOLVENT CEMENT ARE USED.

Ideal for cold water applications

Ashirvad manufactures lead free uPVC Aqualife solvent weld plumbing systems which are a true Engineer's delight. Ideal for cold and potable water plumbing.

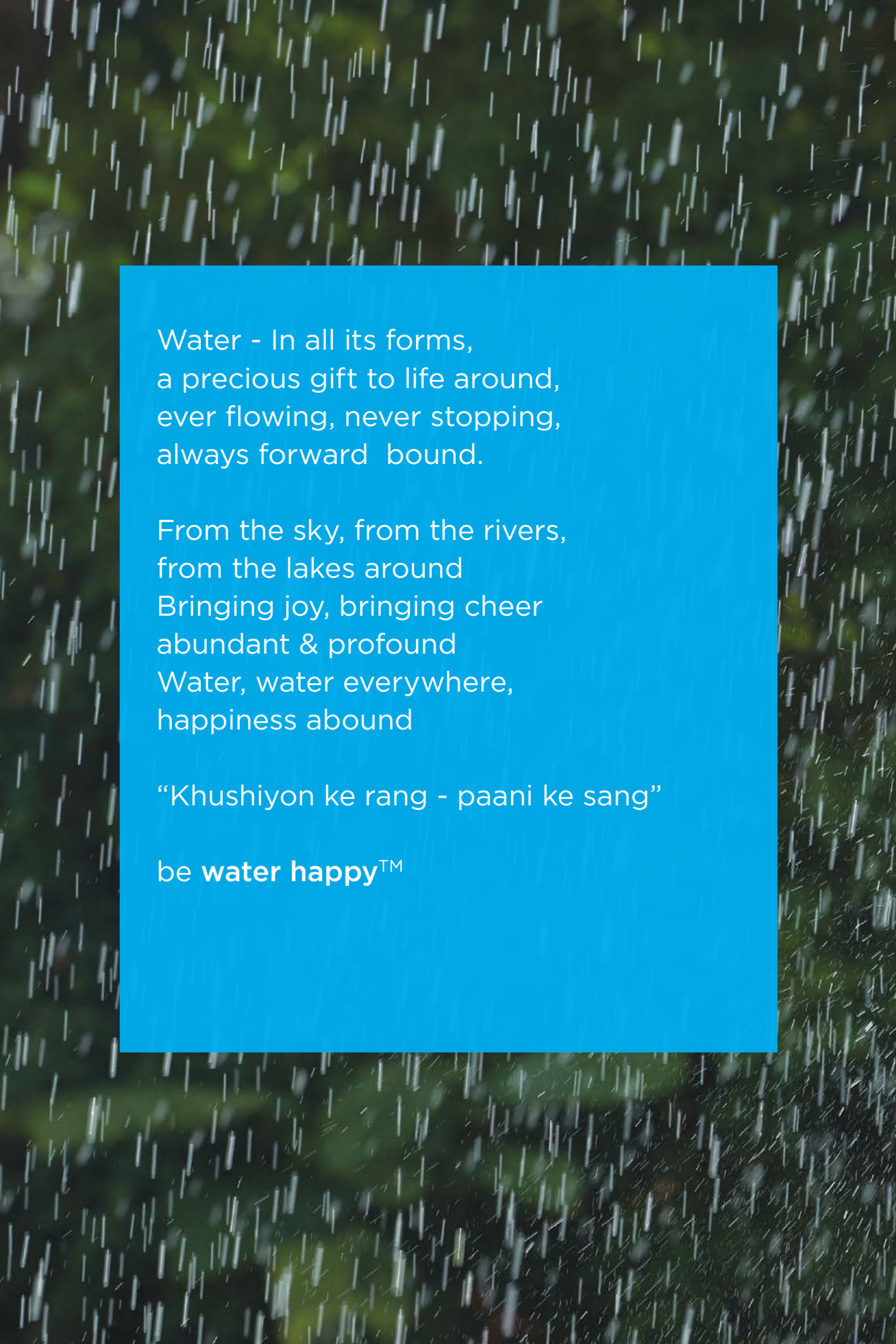
UV resistant

Pb

Design Registered
Only with Ashirvad


ashirvad
AQUALIFE™ (DN 20mm) 3/4" uPVC ASTM - D - 1785 SCHD 40 LEAD FREE
ashirvad
AQUALIFE™ (DN 20mm) 2" uPVC ASTM - D - 1785 SCHD 40 LEAD FREE

Index

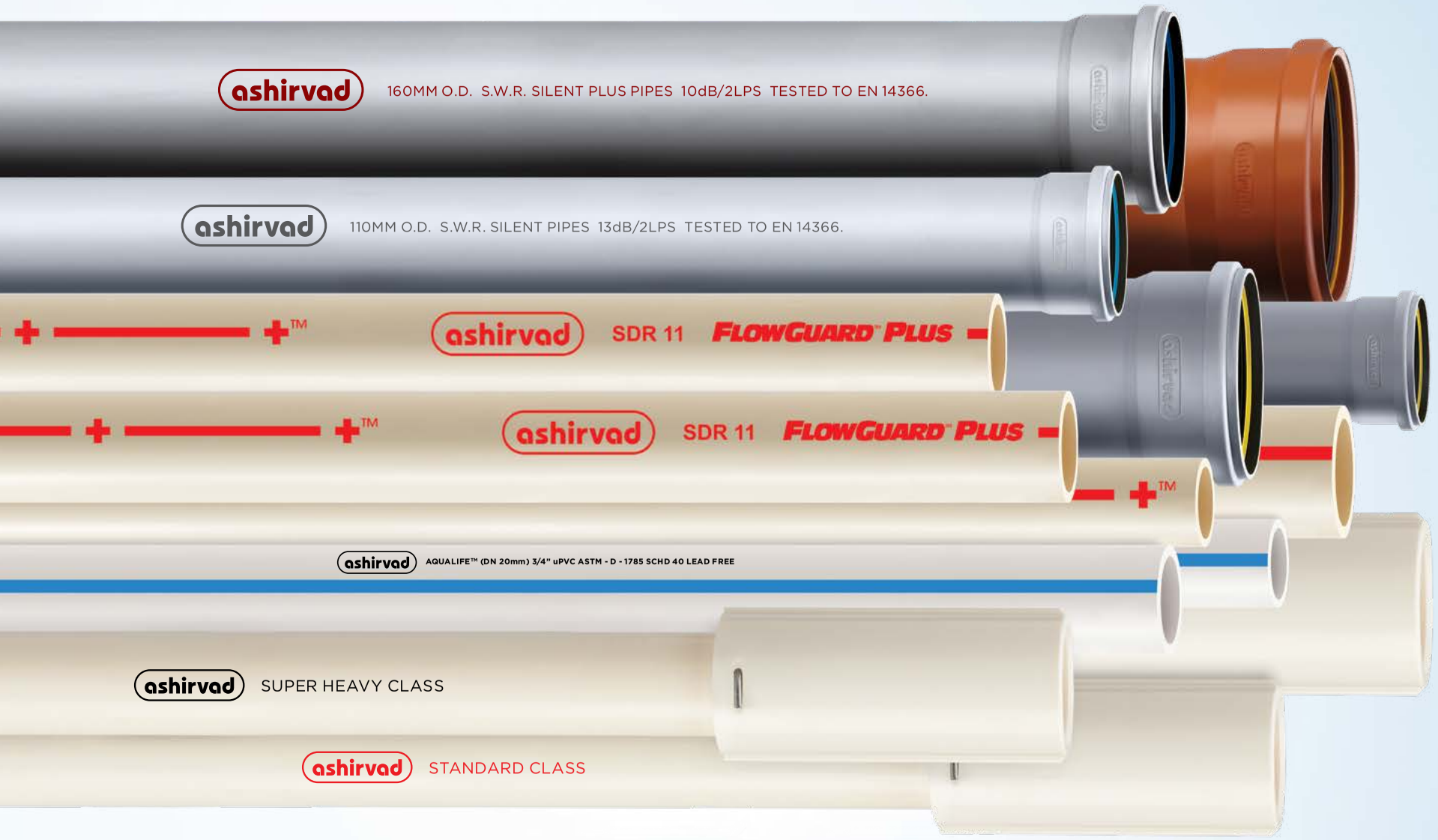


Water - In all its forms,
a precious gift to life around,
ever flowing, never stopping,
always forward bound.

From the sky, from the rivers,
from the lakes around
Bringing joy, bringing cheer
abundant & profound
Water, water everywhere,
happiness abound

“Khushiyon ke rang - paani ke sang”

be **water happy**™


ashirvad
160MM O.D. S.W.R. SILENT PLUS PIPES 10dB/2LPS TESTED TO EN 14366.
ashirvad
110MM O.D. S.W.R. SILENT PIPES 13dB/2LPS TESTED TO EN 14366.
ashirvad SDR 11 FLOWGUARD PLUS
ashirvad SDR 11 FLOWGUARD PLUS
ashirvad AQUALIFE™ (DN 20mm) 3/4" uPVC ASTM - D - 1785 SCHD 40 LEAD FREE
ashirvad SUPER HEAVY CLASS
ashirvad STANDARD CLASS

About Ashirvad

Ashirvad an Aliaxis group company, setup its Bengaluru unit in 1998 and is a wholly owned company of Aliaxis group. Aliaxis group is a global leading manufacturer and distributor of plastic fluid handling systems used in residential, commercial and industrial buildings. Aliaxis, headquartered in Brussels and is present over 45 countries with more than 100 manufacturing and commercial entities, employs over 16,000 people and generates more than 3 billion Euro (₹ 21, 600 crores approx) in annual sales.

Ashirvad has always been relentless in its commitment to quality and services. Ashirvad pipes is a leading manufacturer and supplier of CPVC, uPVC, SWR plumbing systems and also the pioneer in designing and manufacturing of uPVC column pipes, which are used in the erection of submersible borehole pumps. Today Ashirvad Pipes is the world's largest manufacturer of uPVC column pipes and successfully exporting to 40+ countries. The CPVC Hot and Cold plumbing system is manufactured in collaboration with Lubrizol, USA.

Ashirvad is an ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018 certified company with a constant endeavour towards achieving the highest level of customer satisfaction.

Ashirvad, with a determination to be a one-stop-shop for Plumbing, Agriculture, Sanitary, High-rise and Fire Safety solutions, has recently expanded its product range and successfully introduced Agri Pipe, Casing Pipe, BlazeMaster® Pipes & Fittings by Ashirvad.

Capabilities:

- Manufacturing capacity of more than 2,00,000 MT per annum
- Total factory area of 50 acres
- 500+ Strong Sales & marketing staff across India
- Strong team of 205 at corporate office
- Over 4,500 manufacturing workforce
- 11 warehouses, 1,100 distributors, 53,000 dealers across India
- Exporting Column Pipes to more than 40 countries
- 2 factories in Bengaluru and another one in Bhiwadi (Rajasthan) near Delhi

In 2007, Ashirvad won the National Award for **"OUTSTANDING ENTREPRENEURSHIP IN MEDIUM ENTERPRISES"**
The award was presented by the Prime Minister of India.

WCRC Leaders Summit - 2014
Ashirvad Pipes
"One Of The 100 Fastest Growing Marketing Brands In Asia"
(Evaluated and selected by KPMG)
The Global Audit Firm

Construction Industry Database (CIDC) - 2015 Has been enlisted as an **Approved Vendor** for providing the following Services / Products
Manufacturing of
CPVC & uPVC Pipes & Fittings

Certifications

CERTIFICATE
OF REGISTRATION

intertek
Total Quality. Assured.

This is to certify that the management system of

Ashirvad Pipes Pvt. Ltd.

Site 1: Plot No. 4-B, 26 & 26 B Attibele Industrial Area, Hosur Road, Bengaluru - 562107, Karnataka, India
Site 2: Plot No. 27-P, 28-P, 29 & 30, Bommasandra-Jigani Link Road, Industrial Area, Jigani Hobli, Anekal Taluk, Bangalore - 560105, Karnataka, India
Site 3: Plot No. SP1-177 & 178, Kahrani Industrial Area, Bhiwadi Extension, Dis. Alwar - 301019, Rajasthan, India
has been registered by Intertek as conforming to the requirements of

ISO 45001:2018

OHSAS 18001:2007 certified from 20 July 2017 to 27 February 2019.

The management system is applicable to:

Manufacture and Supply of uPVC & cPVC Pipes and Fittings and Solvent Cement for Industrial, Domestic, Agriculture, Sewage Applications.

Certificate Number: 0087730
Initial Certification Date: 20 July 2017
Date of Certification Decision: 27 February 2019
Issuing Date: 28 February 2019
Valid Until: 26 February 2022

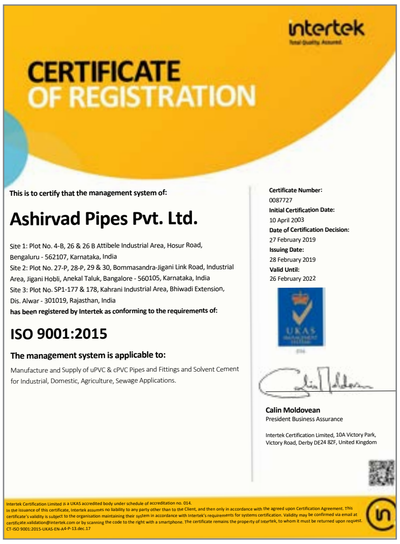
Calin Moldovean
President, Business Assurance

Intertek Certification Limited
10A Victory Park, Victory Road
Derby DE24 8ZF, United Kingdom

Intertek Certification Limited is a UKAS accredited body under schedule of accreditation no. 014.

In the issuance of this certificate, Intertek assumes no liability to any party other than to the Client, and then only in accordance with the agreed upon Certification Agreement. This certificate's validity is subject to the organisation maintaining their system in accordance with Intertek's requirements for systems certification. Validity may be confirmed via email at certificate.validation@intertek.com or by scanning the code to the right with a smartphone.

The certificate remains the property of Intertek, to whom it must be returned upon request.



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ISO 9001:2015

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Certificate Number: 0087727
Initial Certification Date: 10 April 2003
Date of Certification Decision: 27 February 2019
Issuing Date: 28 February 2019
Valid Until: 26 February 2022

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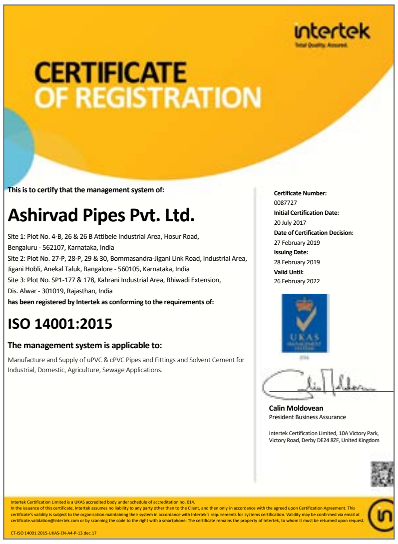
CT-ISO 9001:2015-UKAS-EN-A4-P-13.dec.17



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has been registered by Intertek as conforming to the requirements of:

ISO 14001:2015

The management system is applicable to:

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CT-ISO 14001:2015-UKAS-EN-A4-P-13.dec.17

भारत सरकार
GOVERNMENT OF INDIA
वाणिज्य एवं उद्योग मंत्रालय
MINISTRY OF COMMERCE & INDUSTRY
विदेश व्यापार महानिदेशालय
DIRECTORATE GENERAL OF FOREIGN TRADE
मान्यता प्रमाण पत्र
Certificate of Recognition
एक सितारा निर्यात सदन
ONE STAR EXPORT HOUSE

M/s ASHIRVAD PIPES PVT. LTD.

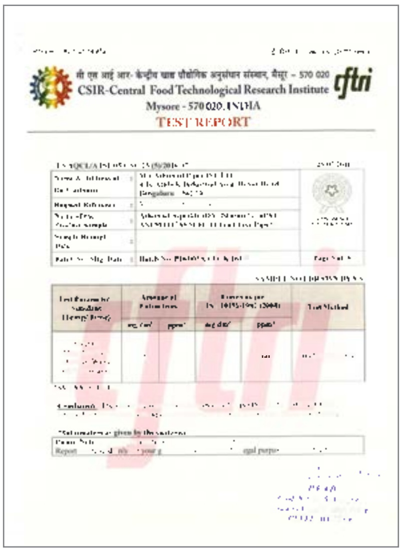
(IEC ____ and Income Tax PAN ____)

are hereby accorded the status of One Star Export House in accordance with the provisions of the Foreign Trade Policy 2015-2020. This Certificate is valid for a period of FIVE years effective from 20.11.2015 to 20.11.2020 subject to the conditions prescribed in Para 3.20(b) of the Hand Book of Procedures (2015-2020).

सं./No. A/ 5953
तारीख/Date :
स्थान/Place : Bengaluru

Additional/ Joint/ Deputy Director General of Foreign Trade/ Development Commissioner (SEZ)

(फाइल सं./File No.) तारीख/Date : 20.11.2015



सी एस आई आर- केन्द्रीय खाद्य प्रौद्योगिक अनुसंधान संस्थान, मैसूर – 570 020
CSIR-Central Food Technological Research Institute
Mysore - 570 020. INDIA
TEST REPORT

CSIR-Central Food Technological Research Institute
Mysore - 570 020. INDIA
TEST REPORT

ashirvad
by aliaxis

About Aliaxis

Aliaxis group is a leading global manufacturer and distributor of plastic fluid handling systems used in residential, commercial and industrial buildings.

Head quartered in Brussels, Belgium. Aliaxis is present in over 45 countries, has more than 100 manufacturing and commercial entities and employs over 16,000 people.

Aliaxis leverages local and global knowledge of the industry as well as regulations and building habits to provide consistently excellent customer service through distribution partners to builders, installers, infrastructure contractors and others. The group is in the Indian plumbing and sanitary market through a partnership with Ashirvad Pipes since 2013.

Aliaxis at a glance

€ 3.1 billion
Revenue

120+
Distribution centres

1.400+
Injection machines

16.000+
Colleagues

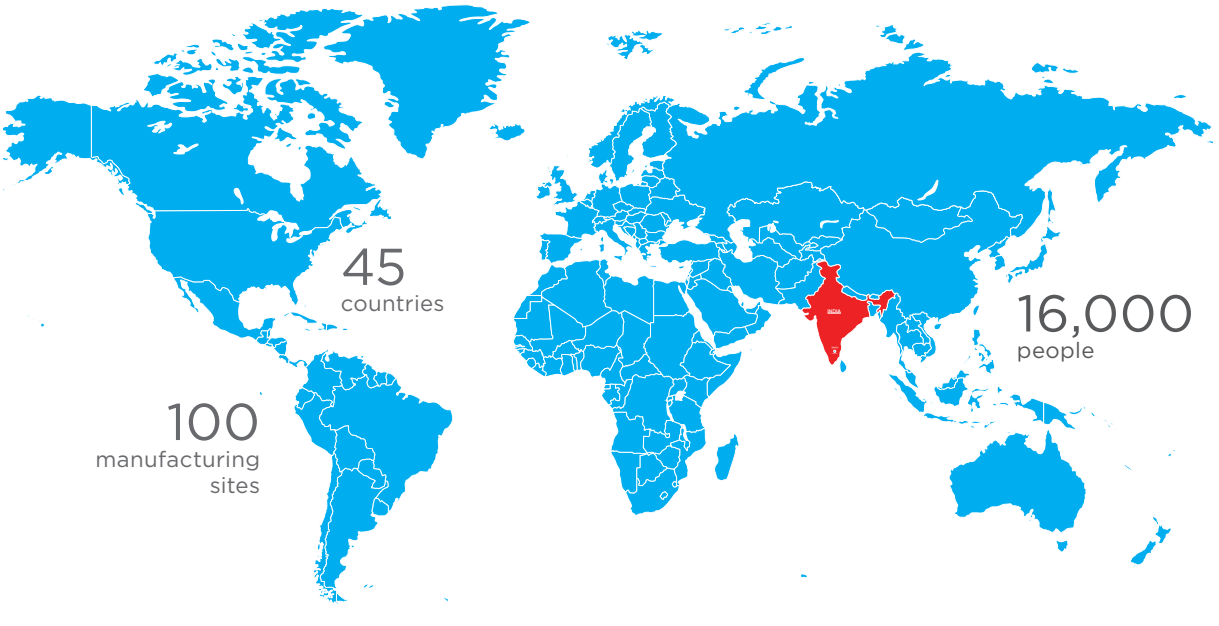
45+
Countries

600+
Extruders

€ 87 million
Capex

80+
Manufacturing sites

10
Commercial brands



Ashirvad production plant

Injection Moulding Facility

Automated Raw material storage in Silos

Ashirvad workforce

Brass Fittings Quality Control

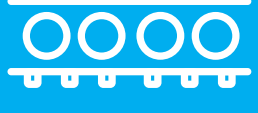
Extrusion Facility

10 ASSURANCES

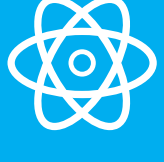
#01
STATE OF THE ART
MANUFACTURING FACILITIES

#02
ADVANCED MACHINERY
FOR SUPERIOR QUALITY

#03
ADVANCED MATERIAL
HANDLING SYSTEMS



#04
100% INCOMING RAW
MATERIAL INSPECTION



#05
HIGH DIMENSIONAL ACCURACY
TO MAINTAIN QUALITY OF
EACH PIECE, TO ENSURE
A DEFECT FREE SYSTEM

Ashirvad's stringent quality checks ensure premium products and maximum customer satisfaction

#06

STRINGENT QUALITY CHECKS AT EVERY LEVEL OF PRODUCTION

#07

100% FINISHED GOODS INSPECTION

#08

MULTIPLE QUALITY CHECKS IN PLACE FOR EVERY AQUALIFE BRASS FITTING THAT LEAVES THE ASHIRVAD FACTORY

#09

EVERY BATCH OF PRODUCTS LAB TESTED

#10

REGULAR EXTERNAL LAB TESTING OF PRODUCTS IN INDIA

LEAK PROOF BATHROOMS

Ideal for use in cold and potable water applications in villas and individual homes, residential apartments, office complexes, commercial buildings, hotels and hospitals.

About uPVC

Unplasticized polyvinyl chloride (uPVC) pipes are made from a combination of plastic and vinyl. These pipes are durable, hard to damage and long lasting. They do not rust, rot, or wear over a long period of time. Therefore, uPVC pipes are most commonly used for cold water applications in plumbing, water supply, underground drainage and sewage lines.

Due to the ability of uPVC pipe to withstand extreme movement and bending, it is also increasingly used in earthquake prone areas. It can withstand rigorous shaking of earth without experiencing any damage.

The smooth surface of the pipe is also resistant to bacterial contamination such as E.coli. Therefore, many water companies rely on uPVC pipes in their systems in order to keep them free of contamination. The general properties of uPVC are given below.

Density [g/cm^3]	1.3 - 1.45
Thermal conductivity [w/(m.k)]	0.14 - 0.28
Yield strength [MPa]	31 - 60
Young's modulus [psi]	490,000
Flexural strength (yield) [psi]	10,500
Compression strength [psi]	9500
Coefficient of thermal expansion (linear) [mm(mm°C)]	5 x 10^{-5}
Vicat B [°C]	>83°C
Resistivity [Ωm]	10^{16}
Surface resistivity [Ω]	10^{13} - 10^{14}

Fire resistant

Ashirvad Aqualife Systems are self-extinguishing and do not support combustion. They are therefore ideally suited for use in buildings and houses. uPVC must be forced to burn due to its High Limiting Oxygen Index (LOI) of 45. LOI is the percentage if oxygen needed in an atmosphere to support combustion. Since the Earth's atmosphere is only 21% oxygen, uPVC will not burn unless a flame is constantly applied, and stops burning when the ignition source is removed.

Material	LOI
Cotton	16 - 17
Polypropylene (PP)	18
Polyethylene (PE)	18
Wood	20
Atmospheric content of OXYGEN	21
uPVC	45
CPVC	60

Chemical resistance of uPVC

Chemical	23°C (73°F)	60°C (140°F)
A		
Acetaldehyde	N	N
Acetaldehyde, aq 40%	C	N
Acetamide - -	-	-
Acetic acid, vapor	R	R
Acetic acid, glacial	R	N
Acetic acid, 25%	R	R
Acetic acid, 60%	R	N
Acetic acid, 85%	R	N
Acetic anhydride	N	N
Acetone	N	N
Acetylene	N	N
Acetyl chloride	N	N
Acetylnitrile	N	N
Acrylonitrile	N	N
Acrylic acid	N	N
Adipic acid	R	R
Alcohol, allyl	R	C
Alcohol, amyl	N	N
Alcohol, benzyl	N	N
Alcohol, butyl (n-butanol)	R	R
Alcohol, diacetone	N	N
Alcohol, ethyl (ethanol)	R	R
Alcohol, hexyl (hexanol)	R	R
Alcohol, isopropyl (2-propanol)	R	R
Alcohol, methyl (methanol)	R	R
Alcohol, propyl (1-propanol)	R	R
Alcohol, propargyl	R	R
Allyl chloride	N	N
Alums	R	R
except Aluminim fluoride	R	N
Ammonia, gas	R	R
Ammonia, liquid	N	N
Ammonium salts	R	R
except Ammonium Dichromate	R	N
Ammonium fluoride, 10%	R	R
Ammonium fluoride, 25%	R	C
Amyl acetate	N	N
Amyl chloride	N	N
Aniline	N	N
Aniline chlorohydrate	N	N
Aniline hydrochloride	N	N
Anthraquinone	R	R
Antimony trichloride	R	R
Anthraquinone sulfonic acid	R	R
Aqua regia	C	N
Arsenic acid, 80%	C	N
Aryl-sulfonic acid	R	R
B		
Barium salts	R	R
except Barium nitrate	R	N
Beer	R	R
Beet sugar liquor	R	R
Benzaldehyde, 10%	R	N
Benzene (benzol)	N	N
Benzene sulfonic acid, 10%	R	R
Benzene sulfonic acid, > 10%	N	N
Benzoic acid	R	R
Black liquor – paper	R	R
Bleach, 12% active chlorine	R	R
Bleach, 5% active chlorine	R	R
Borax	R	R
Boric acid	R	R
Brine	R	R
Bromic acid	R	R
Bromine, aq	R	R
Bromine, liquid	N	N

ashirvad by aliaxis

R - Generally Resistant
C - Less resistant than R but still suitable for some conditions
N - Not resistant

Chemical	23°C (73°F)	60°C (140°F)
Bromine, gas, 25%	R	R
Bromobenzene	N	N
Bromotoluene	N	N
Butadiene	R	R
Butane	R	R
Butynediol	R	N
Butyl acetate	N	N
Butyl stearate	R	N
Butyl phenol	R	N
Butylene, liquid	R	R
Butyric acid	R	N
C		
Cadmium Cyanide	R	R
Calcium salts	R	R
except Calcium bisulde	N	N
Calcium hypochlorite, 30%	R	R
Calcium hydroxide	R	R
Calcium Nitrate	R	R
Calcium Oxide	R	R
Calcium Sulfate	R	R
Camphor	R	N
Cane sugar liquors	R	R
Carbon disulfide	N	N
Carbon dioxide	R	R
Carbon dioxide, aq	R	R
Carbon monoxide	R	R
Carbitol	R	N
Carbon tetrachloride	R	N
Carbonic Acid	R	R
Castor oil	R	R
Caustic potash (potassium hydroxide), 50%	R	R
Caustic soda (sodium hydroxide), <40%	R	R
Cellosolve	R	N
Cellosolve acetate	R	N
Chloral hydrate	R	R
Chloramine, dilute	R	N
Chloric acid, 20%	R	R

Chemical	23°C (73°F)	60°C (140°F)
Chlorine, gas, dry	C	N
Chlorine, gas, wet	N	N
Chlorine, liquid	N	N
Chlorine water	R	R
Chloracetic acid, 50%	R	R
Chloroacetyl Chloride	R	N
Chlorobenzene	N	N
Chlorobenzyl chloride	N	N
Chloroform	N	N
Chloropicrin	N	N
Chlorosulfonic acid	R	N
Chromic acid, 10%	R	R
Chromic acid, 30%	R	R
Chromic acid, 40%	R	C
Chromic acid, 50%	N	N
Chromium potassium sulfate	R	N
Citric acid	R	R
Coconut oil	R	R
Coffee	R	R
Coke oven gas	R	R
Copper acetate	R	N
Copper salts, aq	R	R
Corn oil	R	R
Corn syrup	R	R
Cottonseed oil	R	R
Cresote	N	R
Cresol, 90%	N	N
Cresylic acid, 50%	R	R
Croton aldehyde	N	N
Crude oil, sour	R	R
Cupric Salts, aq	R	R
Cyclohexane	N	N
Cyclohexanol	N	N
Cyclohexanone	N	N
D		
Detergents, aq	R	R
Dextrin	R	R
Dextrose	R	R

Chemical	23°C (73°F)	60°C (140°F)
Dibutoxyethyl phthalate	N	N
Diesel fuels	R	R
Diethylamine	N	N
Diethyl Ether	R	N
Disodium phosphate	R	R
Diglycolic acid	R	R
Dioxane -1,4	N	N
Dimethylamine	R	R
Dimethyl formamide	N	N
Dibutyl phthalate	N	N
Dibutyl sebacate	R	N
Dichlorobenzene	N	N
Dichloroethylene	N	N
E		
Ether	N	N
Ethyl ether	N	N
Ethyl halides	N	N
Ethylene halides	N	N
Ethylene glycol	R	R
Ethylene oxide	N	N
F		
Fatty acids	R	R
Ferric salts	R	R
Fish Oil	R	R
Fluorine, dry gas	R	N
Fluorine, wet gas	R	N
Fluoboric acid	R	R
Fluosilicic acid, 50%	R	R
Formadehyde	R	R
Formic acid	R	N
Freon - F11, F12, F113, F114	R	R
Freon - F21, F22	R	N
Fructose	R	R
Furfural	N	N
G		
Gallic acid	R	R
Gas, coal, manufactured	N	N
Gas, natural, methane	R	R

Chemical	23°C (73°F)	60°C (140°F)
Gasolines	C	C
Gelatin	R	R
Glucose	R	R
Glue, animal	R	R
Glycerine (glycerol)	R	R
Glycolic acid	R	R
Glycols	R	R
Grape Sugar	R	R
Green liquor, paper	R	R
H		
Heptane	R	R
Hexane	R	N
Hexanol	R	R
Hydraulic Oil	R	N
Hydrobromic acid, 20%	R	R
Hydrochloric acid	R	R
Hydrofluoric acid, 30%	R	N
Hydrofluoric acid, 50%	R	N
Hydrofluoric acid, 100%	N	N
Hydrofluosilic acid	R	R
Hydrocyanic acid	R	R
Hydrogen	R	R
Hydrogen cyanide	R	R
Hydrogen fluoride	N	N
Hydrogen phophide	R	R
Hydrogen peroxide, 50%	R	R
Hydrogen peroxide, 100%	R	R
Hydrogen sulfide, aq	R	R
Hydrogen sulfide, dry	R	R
Hydroquinone	R	R
Hydroxylamine sulfate	R	R
Hydrazine	N	N
Hypochlorous acid	R	R
I		
Iodine, aq, 10%	N	N
J		
Jet fules, JP-4 and JP-5	C	C

ashirvad by aliaxis

R - Generally Resistant
C - Less resistant than R but still suitable for some conditions
N - Not resistant

Chemical	23°C (73°F)	60°C (140°F)
K		
Kerosene	R	R
Ketones	N	N
Ketchup	R	N
Kraft paper liquor	R	R
L		
Lctic acid, 25%	R	R
Lactic acid, 80%	R	N
Lard oil	R	R
Lauric acid	R	R
Lauryl acetate	R	R
Lauryl chlorie	R	R
Lead salts	R	R
Lime sulfur	R	R
Linoleic acid	R	R
Linoleic oil	R	R
Linseed oil	R	R
Liqueurs	R	R
Lithium salts	R	R
Lubricating oils	R	R
M		
Magnesium salts	R	R
Maleic acid	R	R
Malic acid	R	R
Manganese sulfate	R	R
Mercuric salts	R	R
Mercury	R	R
Methane	R	R
Methoxyethl oleate	R	N
Methyl acetate	N	N
Methyl amine	N	N
Methyl bromide	N	N
Methyl cellosolve	N	N
Methyl chloride	N	N
Methyl chloroform	N	N
Methyl ethyl ketone	N	N
Methyl isobutyl carbinol	N	N
Methyl isopropyl ketone	N	N
Methyl methacrylate	R	N
Methyl sulfate	R	N
Methyl sulfuric acid	R	R
Methylene bromide	N	N
Methylene chloride	N	N
Methylene iodide	N	N
Milk	R	R
Mineral oil	R	R
Molasses	R	R
Monochloroacetic acid	R	R
Monochlorobenzene	N	N
Monoethanolamine	N	N
Motor oil	R	R
N		
Naptha	R	R
Naphthalene	N	N
Natural Gas	R	R
Nickel acetate	R	N
Nickel salts	R	R
Nicotine	R	R
Nicotinic acid	R	R
Nitric acid, 0 to 40%	R	R
Nitric acid, 50%	R	C
Nitric acid, 100%	N	N
Nitrobenzene	N	N
Nitroglycerine	N	N
Nitrous acid, 10%	R	R
Nitrous oxide, gas	R	N
Nitroglycol	N	N
O		
Oleic acid	R	R
Oleum	N	N
Olive oil	R	R
Oxalic acid	R	R
Oxygen, gas	R	R
Ozone, gas	R	R

Chemical	23°C (73°F)	60°C (140°F)
P		
Palmitic acid, 10%	R	R
Palmitic acid, 70%	R	N
Paraffin	R	R
Pentane	C	C
Peracetic acid, 40%	R	N
Perchloric acid, 15%	R	N
Perchloric acid, 70%	r	N
Perchloroethylene	R	N
Perphosphate	R	N
Phenol	R	N
Phenylhydrazine	N	N
Phosphoric anhydride	R	N
Phosphoric acid	R	R
Phosphorus pentoxide	R	N
Phosphorous trichloride	N	N
Photographic chemicals, aq	R	R
Phthalic acid	N	N
Plating solutions, metal	R	R
Potash	R	R
Potassium amyl xanthate	R	N
Potassium salts, aq	R	R
except Potassium iodide	R	N
Potassium permanganate, 10%	R	R
Potassium permanganate, 25	R	N
Propane	R	R
Propylene dichloride	N	N
Propylene oxide	N	N
Pyridine	N	N
Pyrogallic acid	R	N
R		
Rayon coagulating bath	R	R
S		
Salicylic acid	R	R
Salicyladehyde	N	N
Selenic acid, aq.	R	R
Silicic acid	R	R
Silicone oil	R	N
Silver salts	R	R
Soaps	R	R
Sodium salts, aq	R	R
except Sodium chlorite	N	N
except Sodium chlorate	R	N
except Sodium hypochlorite	R	N
Stannic chloride	R	R
Stannous chloride	R	R
Starchy	R	R
Stearic acid	R	R
Stoddard solvent	N	N
Succinic acid	R	R
Sulfamic acid	N	N
Sulfate & Sulfite liquors	R	R
Sulfur	R	R
Sugars, aq	R	R
Sulfur dioxide, dry	R	R
Sulfur dioxide, wet	R	N
Sulfur trioxide, gas, dry	R	R
Sulfur acid, wet	R	N
Sulfuric acid, up to 80%	R	R
Sulfuric acid,90 to 93%	R	N
Sulfuric acid, 94 to 100%	N	N
Sulfurous acid	R	R
T		
Tall oil	R	R
Tannic acid	R	R
Tanning liquors	R	R
Tar	N	N
Tartaric acid	R	R
Terpineol	C	C
Tetrachloroethane	C	C
Toluene	N	N
Tomato juice	R	R
Transformer oil	R	R
Tributyl phosphate	N	N
Tributyl citrate	R	R
Trichloroacetic acid	R	R

R - Generally Resistant
C - Less resistant than R but still suitable for some conditions
N - Not resistant

Chemical	23°C (73°F)	60°C (140°F)
Trichloroethylene	R	N
Triethanolamine	R	N
Triethylamine	R	R
Trimethyl propane	R	N
Trisodium phosphate	R	R
Turpentine	R	R
U		
Urea	R	R
Urine	R	R
V		
Vaseline	N	N
Vegetable oils	R	R
Vinegar	R	R
Vinyl acetate	N	N
W		
Water, deionized	R	R
Water, distilled	R	R
Water, salt	R	R
White Liquor	R	R
Whiskey	R	R
Wines	R	R
X		
Xylene	N	N
Z		
Zinc salts	R	R

These tables are meant to aid the designer in decisions as to transporting/conveyance of undiluted chemicals. Chemical resistance data is provided as a guide only. Information is based primarily on immersion of unstressed strips in chemicals and to lesser degree on field experience.

Source: PPI TR-19 Plastics Institute Wayne, NJ, 1991; Uni-Bell Handbook of PVC pipe.


ashirvad
AQUALIFE™

Why Ashirvad Aqualife?

Ashirvad Pipes manufactures “Lead Free” uPVC Aqualife Solvent weld plumbing system which is an Engineer’s and Architect’s delight. Aqualife pipes and fittings are available from size 15 mm (½”) to 150 mm (6”) in Sch 40 and Sch 80.

Lead Free

Ashirvad Aqualife is a lead free system making it an ideal and safe system for potable water distribution. It conformes to the latest standards for pipes meant for drinking water supply and is preferred worldwide.

Freedom from Toxicity, Odours, Tastes

Ashirvad Aqualife pipes and fittings are non-toxic, odourless and tasteless.

Cost Effective

Ashirvad Aqualife pipes and fittings are light in weight. They save on material as well as installation costs.

Easy to Install

Ashirvad Aqualife pipes and fittings are lightweight - approximately one-half the weight of aluminum and one-sixth the weight of steel - reducing transportation, handling and installation costs. They have smooth seamless interior walls, They require no special tools for cutting and are installed with solvent adhesive, threading, flanging and roll-grooved joining.

Maintenance - Free

Ashirvad Aqualife pipes and fittings do not rust, pit, scale, corrode or promote build-up on the system interior. Years of trouble-free service can be expected from these pipes.

Strong and Durable

Ashirvad Aqualife pipes and fittings are highly resilient, tough and durable products that have high tensile and high-impact strength. They withstand high pressure for long periods. These pipes and fittings are free from corrosion, rust, weathering and chemical action and hence have a longer proven life term.

UV Resistant

Ashirvad Aqualife pipes and fittings are UV resistant offering better resistance to Ultra Violet degradation.

Fire Resistant

Ashirvad Aqualife pipes and fittings are self-extinguishing and do not support combustion.

Good Chemical Resistance

Ashirvad Aqualife pipes and fittings are inert to attack by a wide variety of strong acids, alkalis, salt solutions, alcohols and many other chemicals. They do not react with materials carried, nor act as a catalyst.

Good Corrosion Resistance

Internal Corrosion Resistance

Ashirvad Aqualife pipes and fittings resist chemical attack by most acids, alkalis, salts, and organic media such as alcohols and aliphatic hydrocarbons, within certain limits of temperature and pressure.

External Corrosion Resistance

Industrial fumes, humidity, saltwater, weather, atmospheric, or underground conditions-regardless of soil type or moisture - cannot harm these pipe and fittings. Scratches or surface abrasions do not provide points at which corrosive elements can attack.

Low thermal conductivity

Ashirvad Aqualife pipes and fittings have a much lower thermal conductivity factor than metal pipes. This ensures that fluids maintain a constant temperature.

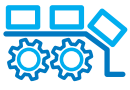
Solvent adhesive jointing

The jointing of Ashirvad Aqualife pipes is simple and a single step process which uses solvent adhesive, providing a 100% leak proof joint.

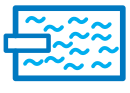
Fields of Applications

Ashirvad manufactures “Lead Free” uPVC Aqualife solvent weld plumbing system which is a true engineer’s and architect’s delight. Aqualife pipes and fittings are available from size 15 mm (½”) to 150 mm (6”) in Sch 40 and Sch 80.

Cold water plumbing application in buildings



Industrial process lines



Swimming pools

Salt water lines

Water distribution mains

Semi aggressive/corrosive fluid transportation

Dye plants, chrome, zinc plating and tanning plants

Sugar, paper and distillery industries

Coal washing and ash handling

Ring lines/down take lines

Properties of Ashirvad Aqualife Pipe

General

Physical properties of uPVC pipe	Value	Test Method
Cell classification	12454	ASTMD1784
Maximum service temperature	140°F/60°C	-
Colour	White	-
Water Absorption % increase 24 hrs @ 25°C	0.05	ASTM D570
Rockwell hardness	110-120	ASTM D785
Poisson's Ratio @ 73°F	0.410	-
Hazen Williams factor	C=150	-

Mechanical

Physical properties of uPVC pipe	Value	Test Method
Specific gravity	1.45 / 1.47	ASTM D792
Tensile strength, psi @ 73°F	7,450	ASTM D638
Modulus of elasticity, psi @ 73°F (tensile modulus)	420,000	ASTM D638
Flexural strength, psi @ 73°F	14,450	ASTM D790
Compressive strength, psi @ 73°F	9,600	ASTM D695
Izod impact, ft-lb./in @ 73°F	0.75	ASTM D256

Thermal

Physical properties of uPVC pipe	Value	Test Method
Coefficient of linear expansion (in/in/°F)	2.9×10^{-5}	ASTM D696
Coefficient of thermal conductivity (BTU/hr/ft^2/°F/in)	1.02	ASTM C177
Heat deflection temperature °F @ 264 psi	170	ASTM D648
Specific heat, Cal/g/°C	0.25	ASTM D2766

Electrical

Physical properties of uPVC pipe	Value	Test Method
Dielectric strength, V/mil	1,413	ASTM D149
Dielectric Constant, 60Hz, 30°F	3.7	ASTM D150
Volume resistivity, Ω/cm @ 95°C, ohms/cm	1.2×10^{12}	ASTM D257

Flammability

Physical properties of uPVC pipe	Value	Test Method
Flammability rating	V-0	UL94
Flammability index	<10	
Flame spread	0-25	ULC S102.2
Flash ignition temperature	730°F	ASTM D1929
Average time of burning (sec.)	<5	ASTM D635
Average extent of burning	<10(mm)	ASTM D635
Burning rate (in/min)	Self Extinguishing	ASTM D635
Softening starts (approx)	250°F/121°C	-
Material becomes viscous	350°F/176°C	-
Material carbonizes	425°F/218°C	-
Smoke generation	80-225	ULC S102.2

Standards for Pipes & Fittings

Class of Pipe/Fitting	Standard	Sizes Available
Sch 40 Pipe	ASTM D 1785	½" - 6"
Sch 80 Pipe	ASTM D 1785	½" - 6"
Sch 40 Fitting	ASTM D 2466	2½" - 6"
Sch 80 Fitting	ASTM D 2467	½"- 4"

PVC pipe temperature de-rating factor for pressure rating

Operating Temperature		
Fahrenheit (°F)	Centigrade °C	De-rating Factor
73	23	1.00
80	27	0.88
90	32	0.75
100	38	0.62
110	43	0.51
120	49	0.40
130	54	0.31
140	60	0.22

Dimension and Water Pressure Rating of Ashirvad Aqualife Pipes and Fittings

Nominal Pipe Size (in)	Outside Diameter (mm)	Average	Maximum out of roundness	Wall Thickness			
				SCH 40		SCH 80	
				Minimum	Tolerance	Minimum	Tolerance
½	21.34	±0.10	0.71	2.77	0.51	3.73	0.51
¾	26.67	±0.10	0.51	2.87	0.51	3.91	0.51
1	33.4	±0.13	0.51	3.38	0.51	4.55	0.53
1¼	42.16	±0.13	0.61	3.56	0.51	4.85	0.58
1½	48.26	±0.13	0.61	3.68	0.51	5.08	0.61
2	60.32	±0.15	0.61	3.91	0.51	5.54	0.66
2½	73.02	±0.18	0.76	5.16	0.61	7.01	0.84
3	88.9	±0.20	0.76	5.49	0.66	7.62	0.91
4	114.3	±0.23	0.76	6.02	0.71	8.56	1.02
6	168.28	±0.28	1.78	7.11	0.86	10.97	1.32

Pressure Rating - uPVC Pipes Schedule 40

Nominal (in)	Size (mm)	Average Outer Diameter (mm)	Min. wall thickness (mm)	Max. work pressure rating (kg/cm²) at 23°C	Burst Pressure (kg/cm²)
½	15	21.34	2.77	42.22	134.30
¾	20	26.67	2.87	33.75	108.29
1	25	33.40	3.38	31.61	101.26
1¼	32	42.16	3.56	26.00	83.00
1½	40	48.26	3.68	23.25	74.54
2	50	60.32	3.91	19.68	62.61
2½	65	73.02	5.16	21.11	68.22
3	80	88.90	5.49	18.25	59.04
4	100	114.30	6.02	15.50	49.97
6	150	168.28	7.11	12.64	39.36

Pressure Rating - uPVC Pipes Schedule 80

Nominal (in)	Size (mm)	Average Outer Diameter (mm)	Min. wall thickness (mm)	Max. work pressure rating (kg/cm²) at 23°C	Burst Pressure (kg/cm²)
½	15	21.34	3.73	59.76	191.30
¾	20	26.67	3.91	48.54	154.69
1	25	33.40	4.55	44.26	142.05
1¼	32	42.16	4.85	36.61	116.76
1½	40	48.26	5.08	33.04	106.15
2	50	60.32	5.54	28.14	90.65
2½	65	73.02	7.01	29.57	95.65
3	80	88.90	7.62	26.00	84.33
4	100	114.23	8.56	22.54	73.11
6	150	168.28	10.97	19.68	62.61

Burst pressure requirement for uPVC fittings Sch 40 & Sch 80 is same as burst pressure of uPVC Sch 40 & Sch 80 pipes respectively.

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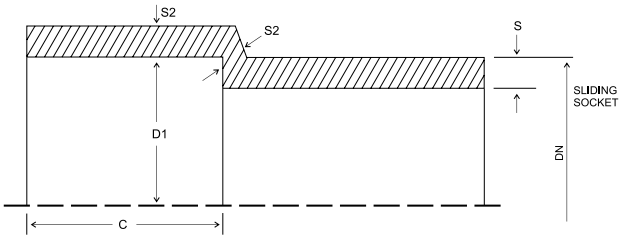
Tapered Sockets for uPVC Pipe Fittings



Tapered Socketed Dimension for uPVC Pipe Fittings, Schedule 40 (as per ASTM D2466)

Nominal Size (in)	Socket Entrance Diameter (A)		Socket Bottom Diameter (B)		Socket Length in inch (mm)	Inside Diameter in inch (mm)	Wall Thickness in inch (mm)	
	Diameter	Tolerance on Diameter in inch (mm)	Diameter	Tolerance on Diameter in inch (mm)	C	D	Middle if the Socket "E"	Beyond the Socket "F"
½	0.848 (21.54)	±0.004 (±0.10)	0.836 (21.23)	±0.004 (±0.10)	0.688 (17.48)	0.578 (14.68)	0.109 (2.77)	0.136 (3.45)
¾	1.058 (26.87)	±0.004 (±0.10)	1.046 (26.57)	±0.004 (±0.10)	0.719 (18.26)	0.820 (20.83)	0.113 (2.87)	0.141 (3.58)
1	1.325 (33.65)	±0.005 (±0.13)	1.310 (33.27)	±0.005 (±0.13)	0.875 (22.23)	1.044 (26.52)	0.133 (3.38)	0.166 (4.22)
1¼	1.670 (42.42)	±0.005 (±0.13)	1.655 (42.04)	±0.005 (±013)	0.938 (23.83)	1.375 (34.93)	0.140 (3.56)	0.175 (4.45)
1½	1.912 (48.56)	±0.006 (±0.15)	1.894 (48.11)	±0.006 (±0.15)	1.094 (27.79)	1.604 (40.74)	0.145 (3.68)	0.181 (4.60)
2	2.387 (60.63)	±0.006 (±0.15)	2.369 (60.17)	±0.006 (±0.15)	1.156 (29.36)	2.061 (52.35)	0.154 (3.91)	0.193 (4.90)
2½	2.889 (73.38)	±0.007 (±0.18)	2.868 (72.85)	±0.007 (±0.18)	1.750 (44.45)	2.462 (65.53)	0.203 (5.16)	0.254 (6.45)
3	3.516 (89.31)	±0.008 (±0.20)	3.492 (88.70)	±0.008 (±0.20)	1.875 (47.625)	3.060 (77.72)	0.216 (5.49)	0.270 (6.86)
4	4.518 (114.76)	±0.009 (±0.23)	4.491 (114.07)	±0.009 (±0.23)	2.000 (50.80)	4.017 (102.03)	0.237 (6.02)	0.296 (7.52)
6	6.647 (168.83)	±0.011 (0.28)	6.614 (168.00)	±0.011 (0.28)	3.00 (76.20)	6.054 (153.77)	0.280 (7.11)	0.350 (8.89)

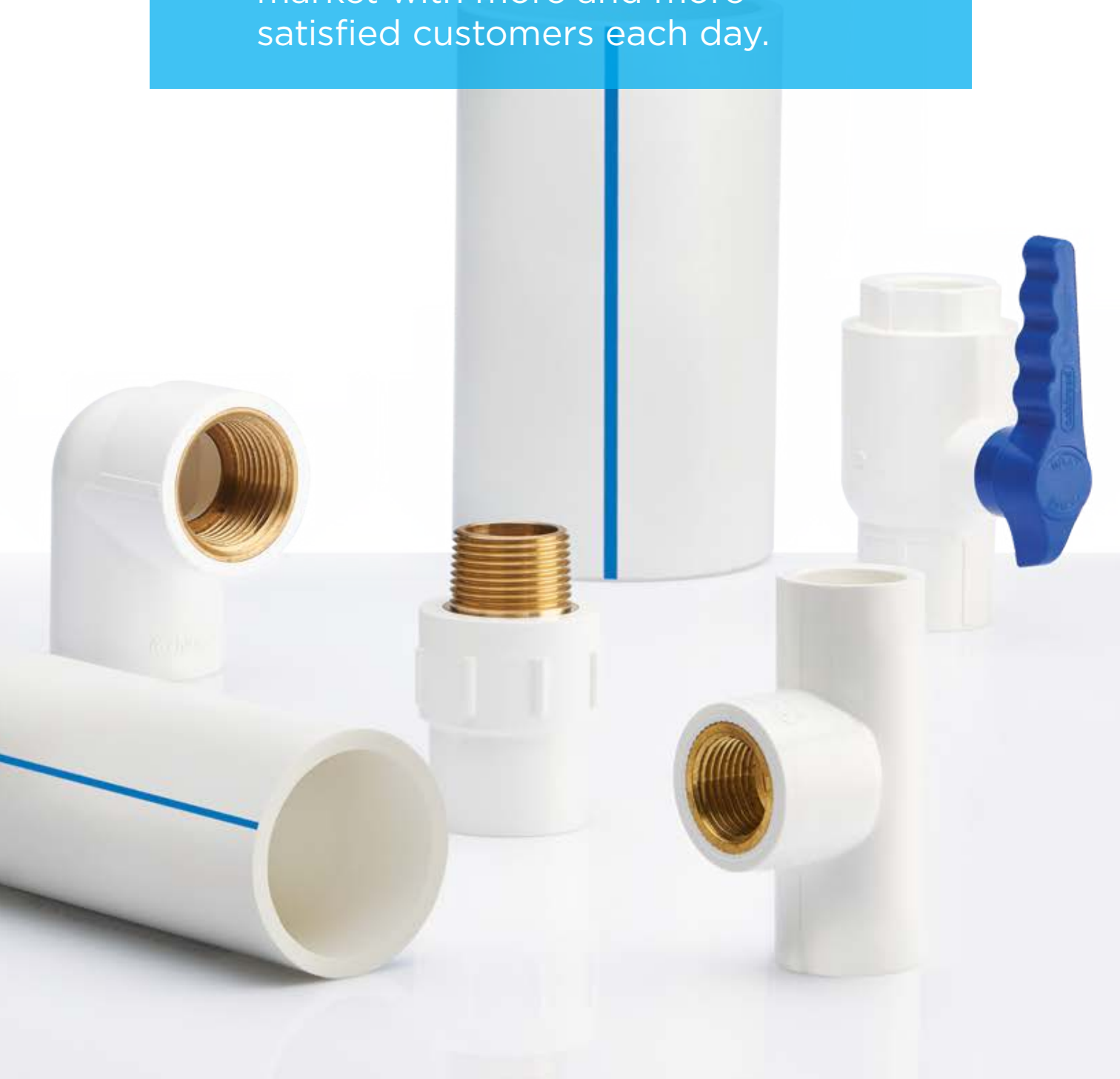
Tapered Socketed Dimension for uPVC Pipe Fittings, Schedule 80 (as per ASTM D2467)

Nominal Size (in)	Socket Entrance Diameter (A)		Socket Bottom Diameter (B)		Socket Length in inch (mm)	Inside Diameter in inch (mm)	Wall Thickness in inch (mm)	
	Diameter	Tolerance on Diameter in inch (mm)	Diameter	Tolerance on Diameter in inch (mm)	C	D	Middle if the Socket "E"	Beyond the Socket "F"
½	0.852 (21.64)	±0.004 (±0.10)	0.840 (21.34)	±0.004 (±0.10)	0.875 (22.22)	0.542 (13.77)	0.147 (3.73)	0.185 (4.70)
¾	1.062 (26.97)	±0.004 (±0.10)	1.050 (26.67)	±0.004 (±0.10)	1.000 (25.40)	0.738 (18.75)	0.154 (3.91)	0.195 (4.95)
1	1.330 (33.78)	±0.005 (±0.13)	1.315 (33.40)	±0.005 (±0.13)	1.125 (28.58)	0.952 (24.18)	0.179 (4.55)	0.225 (5.72)
1¼	1.675 (42.55)	±0.005 (±0.13)	1.660 (42.18)	±0.005 (±0.13)	1.250 (31.75)	1.273 (32.33)	0.191 (4.85)	0.240 (6.10)
1½	1.918 (48.72)	±0.006 (±0.15)	1.900 (48.26)	±0.006 (±0.15)	1.375 (34.93)	1.494 (37.95)	0.200 (5.08)	0.250 (6.99)
2	2.393 (60.78)	±0.006 (±0.15)	2.375 (60.325)	±0.006 (±0.15)	1.500 (38.10)	1.933 (49.10)	0.218 (5.54)	0.275 (6.99)
2½	2.896 (73.56)	±0.007 (±0.18)	2.875 (73.03)	±0.007 (±0.18)	1.750 (44.45)	2.316 (58.83)	0.276 (7.01)	0.345 (8.75)
3	3.524 (89.51)	±0.008 (±0.20)	3.500 (88.90)	±0.008 (±0.20)	1.875 (47.63)	2.892 (73.48)	0.300 (7.62)	0.375 (9.525)
4	4 527 (114 99)	+0 009 (+0 23)	4 500 (114 301	+0 009 (+0 231	2 250 (5715)	3 817 (96 951	0 337 (8 56)	0 420 (10 67)

Inspection of brass fittings

SMART WATER MANAGEMENT

With technical tie ups from across the globe, Ashivad strives to bring the latest technology, products and solutions into the Indian plumbing market with more and more satisfied customers each day.



Quality Control Procedures at Ashirvad

The pipes and fittings manufactured at Ashirvad, follow a stringent quality control process before being rolled out to the market, in order to supply a defect free system to its users.

The various quality control checks regularly being done at Ashirvad follow the highest specifications of BIS (India) and ASTM (USA) as given below.

PIPES

Flattening Test
Samples are compressed so that opposite walls are brought together without pipe cracking, Good measure of correct extrusion techniques during production.

Drop Impact Test
Weights dropped onto pipe at 0°C. No cracks or failures are expected to be seen after testing.

Heat Reversion Test
Amount that the pipe changes in length when heated in an oven and left to cool. Measure of residual stresses left in pipe from production process.

Tensile Strength
The maximum stress that a pipe can withstand while being stretched or pulled.

FITTINGS

Stress Relief Test
To determine the level of internal stress by heating the fitting in an aircirculated oven @ 150°C. There should not be any blisters, weld line splitting or any cracking.

PIPES AND FITTINGS

Visual Appearance
To ensure that all pipes and fittings are uniform in colour and free visual effects such as black dots, scratches, burn marks, etc.

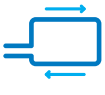
Dimensions
To ensure that all pipes and fittings conform to the appropriate standards particularly wall thickness, socket diameters and socket depth.

Density
Density of pipes and fittings is to be determined.

Burst Pressure
Maximum pressure before pipes and fittings burst, again must be over three times normal pressure rating.

Opacity
To measure the percentage of light flux passing through the wall and to ensure it is below 0.2%.

SYSTEMS



Hydrostatic pressure test
System is to sustain upto 15 minutes a pressure of 1.5 times working pressure without leakage.

Handling and Storage

Proper Handling of Pipes

Please check and inspect the pipes on receipt. The pipes should be checked for any forms of transport damage due to shift in loads or improper handling/treatment. Visually examine the ends of pipes for any cracks or damage.

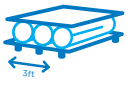
The pipes should be handled with care. The tendency to throw or drop the pipes to the floor should be avoided. Do not drag or push the pipes from a truck bed. Contact of the pipes with any sharp object should be totally avoided.

Storage of Pipes

The pipes should preferably be stored indoors. When this is not possible, please ensure to

Protect the pipes from sun light, to reduce the effect of UV rays.

The pipes should be stored on level ground and on dry surface.



If pipes of same diameter but different classes are being stacked together, place the thicker pipes below. i.e., stack Sch 80 below Sch 40.

If placing pipes on racks, ensure the spacing between the supports does not exceed 3 feet.

Safe Handling of Solvent Cement / Adhesive

When using solvent adhesives, primers and cleaners, there are some basic safety measures all users should keep in mind.

After every application of solvent on the pipe / fitting ensure to put the lid back on the solvent adhesive containers and tighten the lid slightly to avoid evaporation and escape of solvent.

Avoid prolonged breathing of solvent vapours. When pipe and fittings are being joined in enclosed areas, please ensure sufficient ventilation.

Keep the solvent adhesives, primers and cleaners away from all sources of ignition, heat, sparks and open flame.

Keep containers of solvent adhesives, primers and cleaners tightly closed except when the product is being used.

Dispose of all rags used with solvents in a proper outdoor waste bin.

Avoid eye and skin contact. In case of eye contact, flush with plenty of water for 15 minutes and call a doctor.

Refer to ASTM F402, Standard Practice for Safe Handling of Solvent adhesives, Primers, and Cleaners Used for Joining Thermoplastic Pipe and Fittings.

Instructions Solvent adhesive

Recommendations

One Step Solvent adhesive is recommended for joining of pipes and fittings upto 2” in diameter.

Two Step Solvent adhesive is recommended for joining of pipes and fittings above 2” in diameter.

Summary

1. The following procedures shall be clearly understood and followed:
   - The joining surfaces must be softened (dissolved) and made semi-fluid.
   - Sufficient solvent adhesive must be applied to fill the gap between pipe and fitting.
   - Assembly of pipe and fitting must be made while the surfaces are still wet and fluid.
   - Joint strength develops as the solvent adhesive dries. In the tight part of the joint, the surfaces will tend to fuse together; in the loose part, the One-Step solvent adhesive will bond to both surfaces.
2. For 1/2” to 2” (12 mm to 50 mm) diameters penetration and dissolving can be achieved by using the One-Step solvent adhesive itself (see Figure 1). DO NOT USE A PRIMER WITH ONE-STEP SOLVENT ADHESIVE.
3. Sufficient One-Step solvent adhesive must be applied to fill the gap in the loose part of the joint (see Figure 2). Besides filling the gap, adequate One-Step solvent adhesive layers will penetrate the surfaces and also remain wet until the joint is assembled.
4. If the One-Step solvent adhesive coatings on the pipe and fittings are wet and fluid when assembly takes place, they will tend to flow together and become one solvent adhesive layer. Also, if the solvent adhesive is wet, the surfaces beneath them will still be soft, and these dissolved surfaces in the tight part of the joint will tend to fuse together (see Figure 3).
5. As the solvent dissipates, the One-Step solvent adhesive layer and the dissolved surfaces will dry and harden with a corresponding increase in joint strength. Completed joints should not be disturbed until they have cured sufficiently to withstand handling. Joint strength develops as the One-Step solvent adhesive dries. For information about curing and hardening and the minimum time before the piping system can be pressure tested refer page 41.

Warning:
Follow all preparation and installation procedures.

Figure 1: outside of pipe and inside the fitting socket to be softened and penetrated

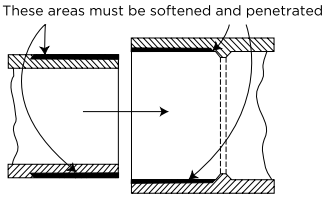


Figure 2: solvent adhesive coatings of sufficient thickness applied uniformly around pipe and inside fitting socket

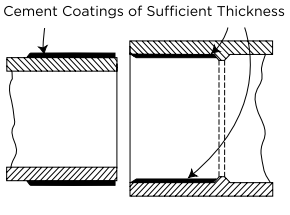
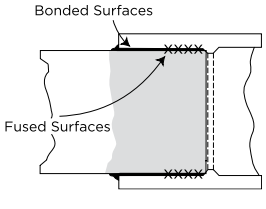
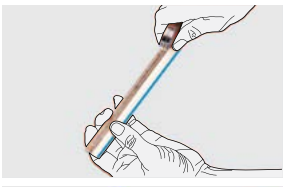


Figure 3: fused and bonded surfaces of joined pipe and fitting

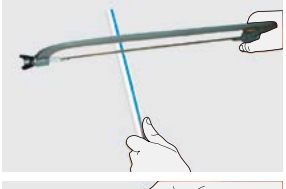


Easy and 100% leakproof installation.



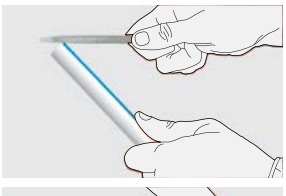
Step 1: Cutting

Measure the pipe length accurately and make a visible marking using a felt tip pen. Ensure that the pipe and fittings are size compatible. You can easily cut with a plywood cutting saw/ ratchet cutter or a wheel cutter. Cutting the pipe as squarely as possible (at 90°) provides optimal bonding area within a joint. Inspect pipe ends thoroughly prior to making a joint. If a crack or splintering is noticed cut-off a minimum of 25 mm beyond the visible crack before proceeding.



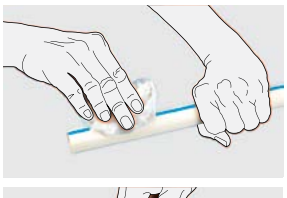
Step 2: Deburring/Beveling

Burrs in and on pipe end can obstruct flow/proper contact between the pipe and socket of the fitting during assembly and should be removed from both in and outside of the pipe. A 15 mm dia half round file/a pen knife or a deburring tool are suitable for this purpose. A slight bevel on the end of the pipe will ease entry of the pipe into the socket of the fitting socket.



Step 3: Fitting Preparation

Using a clean dry rag, wipe the dirt and moisture from the fitting sockets and pipe end. Dry fit the pipe to ensure total entry into the bottom of the fittings socket and make a visible marking using a felt tip pen.



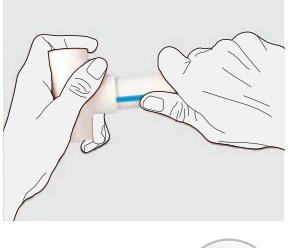
Step 4: One Step Solvent adhesive Procedure

Use only Ashirvad uPVC Solvent adhesive conforming to ASTM F-493 to ensure a perfect solvent weld joint. When making a joint, apply an even coat of solvent adhesive at the end of the pipe and also inside the fitting socket. Do not use thickened or lumpy solvent adhesive. It should have a flow consistency like that of syrup or paint.

- For Two Step Solvent adhesive Procedure see next page.

Step 5: Assembly

Immediately insert the pipe into the fitting socket, rotate the pipe 1/4 to 1/2 turn while inserting. This motion ensures an even distribution of solvent adhesive within the joint. **Properly align the fittings as per patented alignment system shown with picture diagram on the right side.** Hold the assembly for 3 seconds to allow the joint to setup and avoid push-out.



A bead of One-Step solvent adhesive must be formed around the entire socket fitting entrance. With a clean, dry cloth remove the excess solvent adhesive from the surface of the pipe and fitting.

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Step 4: Two Step Solvent adhesive Procedure

4a: Apply primer to socket keeping surfaces wet and applicator wet and in motion until the entire joining surface is properly softened. Avoid puddling.

4b: Apply to pipe surface in the same manner equal to depth of socket.

4c: Apply again to the fitting socket. Avoid puddling.

4d: While the primer is still wet and the surfaces are soft, apply a full, even layer of solvent adhesive to the pipe end, equal to the depth of the fitting socket. Like the primer, be aggressive. Remember to apply enough solvent adhesive to fill the gap between the pipe and fitting.

4e: Apply a thin layer of solvent adhesive to the inside of the fitting socket. This will prevent puddling of the solvent adhesive inside of the pipe or fitting. Excessive solvent adhesive applied to the fitting socket can cause the joint to clog and the wall of the pipe or fitting to weaken due to softening by the trapped solvents.

4f: Apply a second full, even layer of solvent adhesive to the pipe end. Excessive solvent adhesive on the pipe outer diameter (O.D.) can be wiped away after assembly.

Solvent Adhesive Set & Cure Times

Average initial set schedule for uPVC solvent adhesives

Temperature Range	Pipe Sizes ½"-1¼" (15 mm – 32 mm)	Pipe Sizes 1½"-2" (40 mm – 50 mm)	Pipe Sizes 2½"-6" (65 mm – 150 mm)
60° – 100°F / 16° – 38°C	2 minutes	5 minutes	30 minutes
40° – 60°F / 5° – 16°C	5 minutes	10 minutes	2 hours
0° – 40°F / -18° – 5°	10 minutes	15 minutes	12 hours

Note - Initial set schedule is the necessary time to allow before the joint can be carefully handled. In damp or humid weather allow 50% more set time.

Average joint cure schedule for uPVC solvent adhesives

Relative Humidity 60% or Less	Pipe Sizes ½"-1¼" (15 mm – 32 mm)		Pipe Sizes 1½"-2" (40 mm – 50 mm)		Pipe Sizes 2½"-6" (65 mm – 150 mm)	
Temperature range during assembly and cure periods	psi (Bar)		psi (Bar)		psi (Bar)	
	up to 160 (up to 11)	160 to 370 (11 to 26)	up to 160 (up to 11)	160 to 315 (11 to 22)	up to 160 (up to 11)	160 to 315 (11 to 22)
60° – 100°F / 16° – 38°C	15 minutes	6 hours	30 minutes	12 hours	1 - ½ hours	24 hours
40° – 60°F / 5° – 16°C	20 minutes	12 hours	45 minutes	24 hours	4 hours	48 hours
0° – 40°F / -18° – 5°C	30 minutes	48 hours	1 hour	96 hours	72 hours	8 days

Note - Joint cure schedule is the necessary time to allow before pressurizing system. In damp or humid weather allow 50% more cure time.

CAUTION: These figures are estimates based on testing done under laboratory conditions. Although this information is widely published across the industry, these charts should be used as a general reference only. Field working conditions can vary significantly and will increase set and cure times.

Pressuring Solvent adhesive Joints

Care must be taken to allow solvent adhesive joints to adequately cure and develop full strength. A number of
factors will impact the required cure time before joints
can be pressurised. These factors include:

a. On-site temperature and humidity

b. Pipe diameter (larger diameter joints require more time to cure)

c. Internal operating pressure

d. Internal operating temperature

In general, the cure times will allow cold water lines to be pressurised to the cited levels shown.

Based on field experience, cold water lines may require an additional 50% longer cure time or more, before operating at full hot water service conditions. Contractors performing repairs, modifications or maintenance must allow joints to properly cure before pressurising the system with hot water. Reduced operating pressures and temperatures may allow the system to return to service earlier.

Hot Weather Solvent Adhesive - Above 86°F (30°C)

1. Store solvent adhesive in a cool or shaded area prior to use.
2. If possible store pipe and fittings in a shaded area prior to solvent adhesive.
3. Cool surfaces to be joined with a clean, damp rag. Be sure the surface is dry prior to solvent adhesive.
4. Try applying solvent adhesive to the joints in the cooler morning hours.
5. Make sure both surfaces to be joined are still wet with solvent adhesive when joining them together.
6. Vigorously stir or shake the solvent adhesive before use.
7. System anchoring and final connections should be made during the cooler hours of the day to account for expansion and contraction.

Repair Patch

1. The Repair Patch is a flexible and durable permanent repair patch.
2. The Repair Patch is ideal for use on PVC, steel, galvanized and copper piping of all shapes and sizes, flashings, HVAC ducting, wood and concrete.
3. It bonds to practically any rigid surface of any material except polypropylene.
4. The Repair Patch is watertight and resistant to extreme weather conditions.
5. Curing is in direct sunlight or with U/V torch that is available with the product.
6. The flexible material fits easily around any angle.
7. NOT SUITABLE for CPVC (hot water application) and Poly Propylene pipes.
8. After curing, the Repair Patch can be sanded or painted as needed.
9. It is rated up to 10.5 kg/cm² pressure.
10. Available in various sizes – 3” x 6”, 6” x 9”, 9” x 12”

System Acceptance (Hydrostatic Pressure) Test

Once an installation is completed and cured as per these recommendations, the system should be hydrostatically pressure tested at a pressure not less than 1.5 times of working pressure.
The system shall withstand the test without leakage for a period of not less than 15 minutes.

When pressure testing, the system should be filled with water and all air removed from the farthest and highest points in the run.

If a leak is found, the joint must be cut out and discarded and a new section should be installed using couplings.

Danger: Pressure testing with compressed air is dangerous and can result in injury or death. do not use air to test Ashirvad uPVC pipe, fittings and accessories.

Installation Warning

1. Dry fit all joints prior to application of solvent adhesive to confirm proper interference fit.
2. Discard fitting joints without proper interference fit.
3. DO NOT apply solvent adhesive to the joints that are too loose or too tight.
4. Always use proper bevelling tools to prepare pipe ends before application of solvent adhesive.
5. DO NOT apply solvent adhesive to the joints without first bevelling pipe ends.
6. Use only One-Step solvent adhesive to connect 1/2” to 2” (12 mm to 50 mm) pipe, fittings and accessories.
7. DO NOT use primer with One-Step solvent adhesive.
8. DO NOT use other solvent adhesives to connect Ashirvad uPVC pipe, fittings and accessories.
9. Follow all instructions for application of solvent adhesive provided with this product.
10. Ashirvad fully endorses safety and protective measures recommended by government agencies when installing uPVC pipe, other plastic pipe or metal pipe.
11. Always provide proper ventilation when applying primers and solvent adhesives.
12. Avoid unnecessary skin or eye contact with primers and solvent adhesives.
13. Wash immediately if contact occurs to avoid prolonged exposure.
14. Follow all manufacturer-recommended precautions when cutting or sawing pipe or when using any flame, heat or power tools.
15. After hydrostatic testing, thoroughly flush the system for at least 10 minutes to remove residual trace amounts of solvent adhesive.
16. Avoid open flames or soldering around solvent adhesive joints.

Never test Ashirvad uPVC pipe, fittings or accessories with compressed air. Serious injury or death can occur.

Ashirvad uPVC Aqualife systems or not recommended for use with compressed air.


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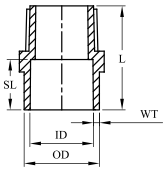
Fittings - Dimensions

MALE ADAPTOR PLASTIC THREADED - MAPT (SCH 80)

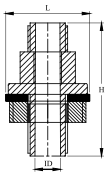


SIZE	ID	OD	WT	SL	L
½	21.64	29.1	3.73	22.23	42
¾	26.97	34.79	3.91	25.4	48
1	33.78	42.88	4.55	28.58	56
1¼	42.55	52.25	4.85	31.75	58
1½	48.72	58.88	5.08	34.93	66
2	60.78	71.86	5.54	38.1	69
2½	73.56	87.58	7.01	44.45	72
3	89.5	113.74	7.62	47.63	76
4	114.99	132.11	8.56	57.15	81

REDUCING MALE ADAPTOR PLASTIC THREADED - MAPT (SCH 80)

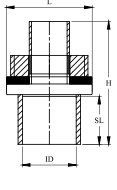
¾x ½	26.97	34.79	3.91	25.4	44

TANK NIPPLE (SCH 80)



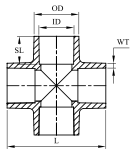
SIZE	ID	L	H
½	21.64	41	67
¾	26.97	46	75
1	33.78	57	86
1¼	42.55	65	94
1½	48.72	71	102
2	60.78	82	104
2½			
3			
4	96.0	148	400

TANK NIPPLE (WITH ONE SIDE PIPE FITMENT)



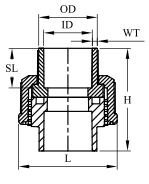
SIZE	ID	SL	L	H
¾	26.97	25.4	46	75
1	33.78	28.58	56	86

CROSS TEE (SCH 80)



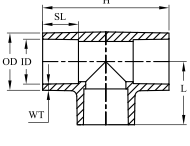
SIZE	ID	OD	WT	SL	L
½	21.64	29.1	3.73	22.23	70
¾	26.97	34.79	3.91	25.4	79
1	33.78	42.88	4.55	28.58	92

UNION (SCH 80)



SIZE	ID	OD	WT	SL	L	H
½	21.64	29.1	3.73	22.23	46	62
¾	26.97	34.79	3.91	25.4	53	65
1	33.78	42.88	4.55	28.58	69	68
1¼	42.55	52.25	4.85	31.75	71	85
1½	48.72	58.88	5.08	34.93	95	85
2	60.78	71.86	5.54	38.1	115	94

TEE (SCH 80)



SIZE	ID	OD	WT	SL	L	H
½	21.64	29.1	3.73	22.23	50	72
¾	26.97	34.79	3.91	25.4	57	79
1	33.78	42.88	4.55	28.58	67	93
1¼	42.55	52.25	4.85	31.75	80	108
1½	48.72	58.88	5.08	34.93	94	121
2	60.78	71.86	5.54	38.1	107	138
2½	73.56	87.58	7.01	44.45	130	174
3	89.5	113.74	7.62	47.63	140	200
4	114.99	132.11	8.56	57.15	188	245

TEE (SCH 40)

2½	73.38	83.7	5.16	44.45	129	174
3	89.3	100.28	5.49	46.63	140	200
4	114.76	126.8	6.02	50.8	186	245
6	153.88	168.1	7.11	77.25	250	330

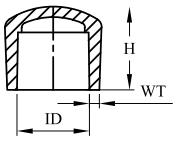
The following notation (symbols) shall apply in this reference manual.

L - Length
W - Width
H - Height

T - Thickness
U - No. of holes
SL - Socket Length

ID - Inner Diameter
OD - Outer Diameter
WT - Wall Thickness

END CAP (SCH 80)

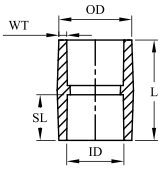


SIZE	ID	OD	WT	SL	L
½	21.64	29.1	3.73	22.23	28
¾	26.97	34.79	3.91	25.4	36
1	33.78	42.88	4.55	28.58	36
1¼	42.55	52.25	4.85	31.75	42
1½	48.72	58.88	5.08	34.93	45
2	60.78	71.86	5.54	38.1	54
2½	73.56	87.58	7.01	44.45	60
3	89.5	113.74	7.62	47.63	66
4	114.99	132.11	8.56	57.15	80

END CAP (SCH 40)

6	153.88	168.1	7.11	77.25	105

COUPLER (SCH 80)

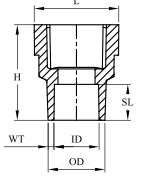


SIZE	ID	OD	WT	SL	L
½	21.64	29.1	3.73	22.23	47
¾	26.97	34.79	3.91	25.4	54
1	33.78	42.88	4.55	28.58	60
1¼	42.55	52.25	4.85	31.75	67
1½	48.72	58.88	5.08	34.93	73
2	60.78	71.86	5.54	38.1	80
2½	73.56	87.58	7.01	44.45	96
3	89.5	113.74	7.62	47.63	102
4	114.99	132.11	8.56	57.15	121

COUPLER (SCH 40)

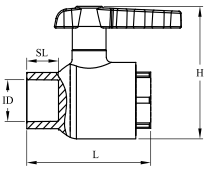
2½	73.38	83.7	5.16	44.45	96
3	89.3	100.28	5.49	46.63	102
4	114.76	126.8	6.02	50.8	121
6	153.88	168.1	7.11	77.25	160

FEMALE ADAPTOR PLASTIC THREADED – FAPT (SCH 80)



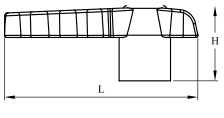
SIZE	ID	OD	WT	SL	L	H
½	21.64	29.1	3.73	22.23	29	40
¾	26.97	34.79	3.91	25.4	35	46
1	33.78	42.88	4.55	28.58	43	55
1¼	42.55	52.25	4.85	31.75	53	59
1½	48.72	58.88	5.08	34.93	60	67
2	60.78	71.86	5.54	38.1	72	71
2½	73.56	87.58	7.01	44.45	87	77
3	89.5	104.74	7.62	47.63	104	87
4	114.99	132.11	8.56	57.15	128	105

BALL VALVE (SCH 80)



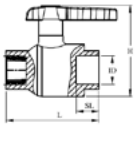
SIZE	ID	SL	L	H	L
½	21.64	22.23	60	73	60
¾	26.97	25.4	78	75	78
1	33.78	28.58	99	104	99
1¼	42.55	31.75	115	115	115
1½	48.72	34.93	125	132	125
2	60.78	38.1	160	160	160

BALL VALVE HANDLE



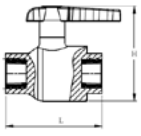
SIZE	L	H
½	74	19
¾	84	21
1	108	30
1¼	116	34
1½	130	36
2	158	50

BALL VALVE with Brass Threaded (One Side)



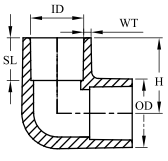
SIZE	ID	SL	L	H
¾	26.97	25.4	78.5	75.2
1	33.78	28.58	99	104.4

BALL VALVE with Brass Threaded (Two Side)



SIZE	L	H
¾	78.5	75.2
1	99	104.4

ELBOW 90° (SCH 80)

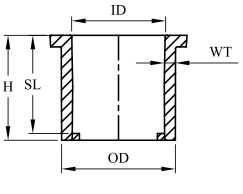


SIZE	ID	OD	WT	SL	H
½	21.64	29.1	3.73	22.23	42
¾	26.97	34.79	3.91	25.4	58
1	33.78	42.88	4.55	28.58	66
1¼	42.55	52.25	4.85	31.75	80
1½	48.72	58.88	5.08	34.93	90
2	60.78	71.86	5.54	38.1	115
2½	73.56	87.58	7.01	44.45	132
3	89.5	113.74	7.62	47.63	150
4	114.99	132.11	8.56	57.15	182

ELBOW 90° (SCH 40)

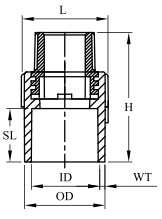
2½	73.38	83.7	5.16	44.45	132
3	89.3	100.28	5.49	46.63	150
4	114.76	126.8	6.02	50.8	182
6	153.88	168.1	7.11	77.25	250

PVC TO CPVC CONVERTER – COUPLER (SCH 80)



SIZE	ID-1	ID-2	OD	WT	SL	L
½	21.64	16.08	23.54	3.73	22.23	47
¾	26.97	22.45	30.27	3.91	25.4	54
1	33.78	28.38	37.48	4.55	28.58	60
1¼	42.55	35.2	44.9	4.85	31.75	67
1½	48.72	41.66	51.82	5.08	34.93	73
2	60.78	54.38	65.46	5.54	38.1	78

MALE ADAPTOR BRASS THREADED – MABT (SCH 80)

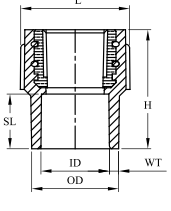


SIZE	ID	OD	WT	SL	L	H
½	21.64	29.1	3.73	22.23	35	59
¾	26.97	34.79	3.91	25.4	40	64
1	33.78	42.88	4.55	28.58	50	68
1¼	42.55	52.25	4.85	31.75	56	80
1½	48.72	58.88	5.08	34.93	62	83
2	60.78	71.86	5.54	38.1	75	95

REDUCING MALE ADAPTER BRASS THREADED - MABT (SCH 80)

¾ x ½	26.97	34.79	3.91	25.4	35	62

FEMALE ADAPTOR BRASS THREADED – FABT (SCH 80)

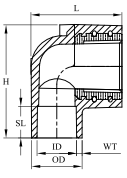


SIZE	ID	OD	WT	SL	L	H
½	21.64	29.1	3.73	22.23	35	44
¾	26.97	34.79	3.91	25.4	40	47
1	33.78	42.88	4.55	28.58	50	55
1¼	42.55	52.25	4.85	31.75	60	61
1½	48.72	58.88	5.08	34.93	67	68
2	60.78	71.86	5.54	38.1	81	74

REDUCING FEMALE ADAPTOR BRASS THREADED – FABT (SCH 80)

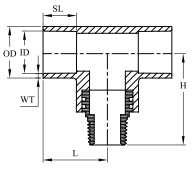
¾ x ½	26.97	34.79	3.91	25.4	35	46
1 x ½	33.78	42.88	4.55	28.58	43	52

BRASS ELBOW 90° (SCH 80)



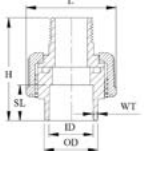
SIZE	ID	OD	WT	SL	L	H
½ x ½	21.64	29.1	3.73	22.23	46	55
¾ x ½	26.97	34.79	3.91	25.4	52	58
¾ x ¾	26.97	34.79	3.91	25.4	52	62
1 x ½	33.78	42.88	4.55	28.58	61	62
1 x ¾	33.78	42.88	4.55	28.58	56	67
1 x 1	33.78	42.88	4.55	28.58	61	74

BRASS TEE (SCH 80)



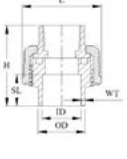
SIZE	ID	OD	WT	SL	L	H
½ x ½ x ½	21.64	29.1	3.73	22.23	46	76
¾ x ¾ x ½	26.97	34.79	3.91	25.4	52	85
1 x 1 x ½	33.78	42.88	4.55	28.58	59	94
1 x 1 x ¾	33.78	42.88	4.55	28.58	56	94
¾ x ¾ x ¾						
1 x 1 x 1						

BRASS UNION MABT



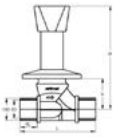
SIZE	ID	OD	WT	SL	L	H
¾	26.97	34.4	3.7	25.4	55.5	70.4
1	33.78	42.8	4.5	28.58	72.0	69

BRASS UNION FABT



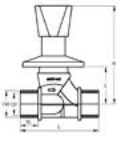
SIZE	ID	OD	WT	SL	L	H
¾	26.97	34.4	3.7	25.4	55.5	60
1	33.78	42.8	4.5	28.58	72.0	60

LONG CONCEALED VALVE



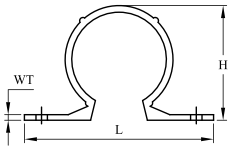
SIZE	ID	OD	SL	h	H
½	21.64	29.1	22.23	41.3	138
¾	26.97	34.79	25.40	41.3	138
1	33.78	42.88	28.58	41.3	135

SHORT CONCEALED VALVE



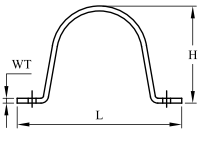
SIZE	ID	OD	SL	h	H
½	21.64	29.1	22.23	41.3	109
¾	26.97	34.79	25.40	41.3	109
1	33.78	42.88	28.58	-	105

PLASTIC CLAMP



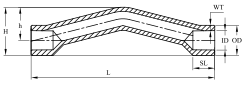
SIZE	WT	L	H
½	3.2	61	29
¾	3.5	66	35
1	3.6	74	44
1¼	4	85	54
1½	4.3	92	62
2	4.2	101	76

POWDER COATED METAL CLAMP



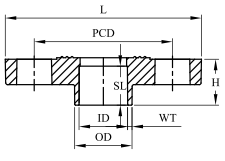
SIZE	WT	L	H
½	1.2	60	22
¾	1.2	65	27
1	1.2	71	34
1¼	1.2	80	42
1½	1.2	88	49
2	1.2	104	60

STEP OVER BEND (SCH 80)



SIZE	ID	WT	SL	H	L
½	21.64	3.73	22.23	42	150
¾	26.97	3.91	25.40	50	190
1	33.78	4.55	28.58	70	268

FLANGE END CAP – OPEN (SCH 80) (WITH RUBBER GASKET)

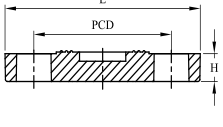


SIZE	ID	OD	WT	SL	L	H	U
1	33.78	42.88	4.55	28.58	115	32	4
1½	48.72	58.88	5.08	34.93	136	38	4
2	60.78	71.86	5.54	38.10	160	42	4
2½	73.56	87.58	7.01	44.45	176	51	4
3	89.50	104.74	7.62	47.63	188	55	4
4	114.99	132.11	8.56	57.15	225	68	8

FLANGE END CAP – OPEN (SCH 40)

6	153.88	168.1	7.11	77.25	278	87	8

FLANGE END CAP – CLOSED (SCH 80) (WITH RUBBER GASKET)

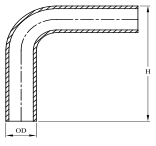


SIZE	L	H	U
1	115	15	4
1½	136	18	4
2	160	18	4
2½	176	23	4
3	188	23	4
4	225	28	8

FLANGE END CAP – CLOSED (SCH 40)

6	278	28	8

SHORT BEND (SCH 80)

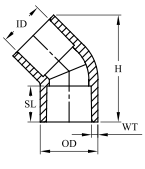


SIZE	OD	H
½	21.64	140
¾	26.97	145
1	33.78	165
1¼	42.55	210
1½	48.72	210
2	60.78	250
3	89.51	260
4	114.25	510

SHORT BEND (SCH 40)

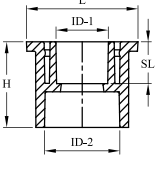
½	21.64	140
¾	26.97	145
1	33.78	165
1¼	42.55	210
1½	48.72	210
2	60.78	250
4	114.25	510

ELBOW 45° (SCH 80)



SIZE	ID	OD	WT	SL	L	H
½	21.64	29.1	3.73	22.23	45	59
¾	26.97	34.79	3.91	25.4	58	68
1	33.78	42.88	4.55	28.58	60	74
1¼	42.55	52.25	4.85	31.75	77	85
1½	48.72	58.88	5.08	34.93	83	88
2	60.78	71.86	5.54	38.1	98	115
2½	73.56	87.58	7.01	44.45	130	168
3	89.5	104.74	7.62	47.63	126	188
4	114.99	132.11	8.56	57.15	145	235

BUSHING - uPVC (SCH 80)



SIZE	ID-1	ID-2	SL	L	H
¾ x ½	26.97	21.64	22.23	34	28
1 x ½	33.78	21.64	22.23	43	32
1 x ¾	33.78	26.97	25.4	43	32
1¼ x ½	42.55	21.64	22.23	53	35
1¼ x ¾	42.55	26.97	25.4	53	35
1¼ x 1	42.55	33.78	28.58	53	35
1½ x ½	48.72	21.64	22.23	58	37
1½ x ¾	48.72	26.97	25.4	58	37
1½ x 1	48.72	33.78	28.58	58	37
1½ x 1¼	48.72	42.55	31.75	58	37

1½ x 1½	48.72	48.72	22.23	58	37
2 x ¾	60.78	26.97	25.4	72	43
2 x 1	60.78	33.78	28.58	72	43
2 x 1¼	60.78	42.55	31.75	72	43
2 x 1½	60.78	48.72	34.93	72	43
2½ x 2 (CTS)	73.56	60.78	38.1	80	56
2½ x 2	73.56	60.78	38.1	80	56
3 x 2 (CTS)	89.5	60.78	38.1	98	56
3 x 2	89.5	60.78	38.1	98	56
3 x 2½	89.5	73.56	44.45	98	56
4 x 2 (CTS)	114.99	60.78	38.1	123	66
4 x 2	114.99	60.78	38.1	123	66
4 x 2½	114.99	73.56	44.45	123	66
4 x 3	114.99	89.5	47.63	123	66

BUSHING - uPVC (SCH 40)

6 x 3	168.10	89.31	47.63	170	85
6 x 4	168.10	114.76	50.8	170	85

SINGLE STEP uPVC AQUALIFE SOLVENT CEMENT - BLUE COLOURED, MEDIUM BODIED

SIZE	CONTAINER TYPE	CAPACITY IN ML
1 oz	Tube	29.5
2 oz	Tube	59
4 oz	Tin	118
8 oz	Tin	237
16 oz	Tin	473
32 oz	Tin	946

SINGLE STEP uPVC AQUALIFE SOLVENT CEMENT - CLEAR, MEDIUM BODIED

SIZE	CONTAINER TYPE	CAPACITY IN ML
4 oz	Tin	118
8 oz	Tin	237
16 oz	Tin	473
32 oz	Tin	946

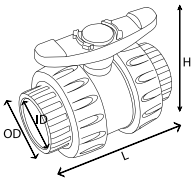
2 STEP uPVC AQUALIFE SOLVENT CEMENT - GREY COLOURED, HEAVY BODIED

SIZE	CONTAINER TYPE	CAPACITY IN ML
4 oz	Tin	118
8 oz	Tin	237
16 oz	Tin	473
32 oz	Tin	946

PRIMER - PURPLE COLOUR

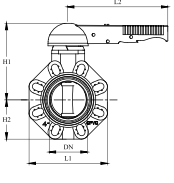
8 oz	Tin	237

BALL VALVE



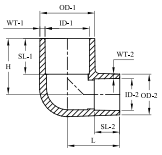
SIZE	ID	OD	SL	H	L
2½	73.56	87.58	44.45	138	230
3	89.5	104.74	47.63	138	252
4	114.99	132.11	57.15	171	295

BUTTERFLY VALVE



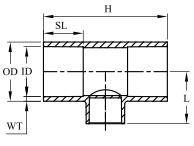
SIZE	ID	L1	H1	H2	L2	W
1½	40.5	132	155	62.5	175	30
2	50.5	147	157	72	175	38
2½	73.56	147	112	70	175	43
3	89.5	165	119	80	175	46
4	114.99	185	133	93	272	49
6	153.88	211	147	107	272	56

REDUCER ELBOW 90° (SCH 80)



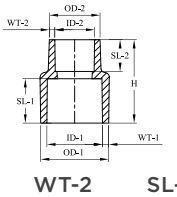
SIZE	ID-1	OD-1	WT-1	SL-1	ID-2	OD-2	WT-2	SL-2	L	H
¾ x ½	26.97	34.79	3.91	25.4	21.64	29.1	3.73	22.23	57	54
1 x ½	33.78	42.88	4.55	28.58	21.64	29.1	3.73	22.23	65	64
1 x ¾	33.78	42.88	4.55	28.58	26.97	34.79	3.91	25.4	68	66

REDUCER TEE (SCH 80)



SIZE	ID-1	OD-1	WT-1	SL-1	ID-2	OD-2	WT-2	SL-2	L	H
¾ x ¾ x ½	26.97	34.79	3.91	25.4	21.64	29.1	3.73	22.23	56	80
1 x 1 x ½	33.78	42.88	4.55	28.58	21.64	29.1	3.73	22.23	67	92
1 x 1 x ¾	33.78	42.88	4.55	28.58	26.97	34.79	3.91	25.4	70	92
1¼ x 1¼ x ½	42.55	52.25	4.85	31.75	21.64	29.1	3.73	22.23	70	108
1¼ x 1¼ x ¾	42.55	52.25	4.85	31.75	26.97	34.79	3.91	25.4	73	108
1¼ x 1¼ x 1	42.55	52.25	4.85	31.75	33.78	42.88	4.55	28.58	75	108
1½ x 1½ x ½	48.72	58.88	5.08	34.93	21.64	29.1	3.73	22.23	75	117
1½ x 1½ x ¾	48.72	58.88	5.08	34.93	26.97	34.79	3.91	25.4	82	117
1½ x 1½ x 1	48.72	58.88	5.08	34.93	33.78	42.88	4.55	28.58	82	117
1½ x 1½ x 1¼	48.72	58.88	5.08	34.93	42.55	52.25	4.85	31.75	87	117
2 x 2 x ½	60.78	71.86	5.54	38.1	21.64	29.1	3.73	22.23	88	100
2 x 2 x ¾	60.78	71.86	5.54	38.1	26.97	34.43	3.73	25.4	93	135
2 x 2 x 1	60.78	71.86	5.54	38.1	33.78	42.88	4.55	28.58	95	135
2 x 2 x 1¼	60.78	71.86	5.54	38.1	42.55	52.25	4.85	31.75	100	135
2 x 2 x 1½	60.78	71.86	5.54	38.1	48.72	58.88	5.08	34.93	104	135
2½ x 2½ x 2	73.56	87.58	7.01	44.45	60.78	71.86	5.54	38.1	82.2	161
3 x 3 x 2½	89.51	104.75	7.62	47.63	73.38	83.7	5.16	44.45	95.45	181.1

REDUCER COUPLER (SCH 80)



SIZE	ID-1	OD-1	WT-1	SL-1	ID-2	OD-2	WT-2	SL-2	H
¾ x ½	26.97	34.79	3.91	25.4	21.64	29.1	3.73	22.23	56
1 x ½	33.78	42.88	4.55	28.58	21.64	29.1	3.73	22.23	66
1 x ¾	33.78	42.88	4.55	28.58	26.97	34.79	3.91	25.4	65
1¼ x ½	42.55	52.25	4.85	31.75	21.64	29.1	3.73	22.23	69
1¼ x ¾	42.55	52.25	4.85	31.75	26.97	34.79	3.91	25.4	68
1¼ x 1	42.55	52.25	4.85	31.75	33.78	42.88	4.55	28.58	68
1½ x ½	48.72	58.88	5.08	34.93	21.64	29.1	3.73	22.23	74
1½ x ¾	48.72	58.88	5.08	34.93	26.97	34.79	3.91	25.4	76
1½ x 1	48.72	58.88	5.08	34.93	33.78	42.88	4.55	28.58	75
1½ x 1¼	48.72	58.88	5.08	34.93	42.55	52.25	4.85	31.75	74
2 x ½	60.78	71.86	5.54	38.1	21.64	29.1	3.73	22.23	85
2 x ¾	60.78	71.86	5.54	38.1	26.97	34.43	3.73	25.4	85
2 x 1	60.78	71.86	5.54	38.1	33.78	42.88	4.55	28.58	85
2 x 1¼	60.78	71.86	5.54	38.1	42.55	52.25	4.85	31.75	83
2 x 1½	60.78	71.86	5.54	38.1	48.72	58.88	5.08	34.93	83
2½ x 2	73.56	87.58	7.01	44.45	60.78	71.86	5.54	38.1	104
3 x 2½	89.51	104.75	7.62	47.63	73.38	83.7	5.16	44.45	107

Frequently Asked Questions

1. Why lead free?

Lead free plumbing system is the most favored for potable water transportation worldwide.

2. Why U.V. Resistant?

U.V. Resistance prevents the oxidation process and helps to increase the durability of pipes and fittings.

In case of using paint on uPVC piping system, only Latex based paints which are water based to make it workable and brushable. NO OIL / Solvent based paints are to be used as these paints can drastically reduce the life of the systems.

3. Why Ashirvad Aqualife uPVC Pipes?

Self Alignment System for correct alignment of fittings with pipes during fitment. Fittings have an alignment mark which is to be matched with the blue stripe on the pipe during the fitment process. This is to ensure that in the concealed installations the water outlet fittings are perpendicular to the wall surface and to avoid any repair, breakage, etc, after the wall finishing has been completed. This system ensures a perpendicular and correct fit each time.

Ashirvad Aqualife uPVC pipes and fittings are made with special lead free compound to ensure conformity to the latest requirements in the developed nations, the lead free compound is non-toxic and safe for drinking water purposes.

Ashirvad Aqualife plumbing system has a pressure bearing capacity twice than that of the threaded pipe.

4. Will Ashirvad Aqualife uPVC solvent weld system save me money?

Yes, As a professional, you will quickly realize that uPVC can be installed much faster than metal systems. Financial savings are also realized with regard to lower tool costs and insurance advantage. Even considering the frequent rise and fall of the metal price structure, uPVC offers a continuing materials cost advantage, as much as full 50-60% of material savings today.

5. What about health, safety and fire toxicity issues?

Tests performed at various independent laboratories confirm that uPVC is superior to metal systems in terms of water quality effects and “no more toxic than wood” in fire.

Ashirvad Aqualife uPVC system is manufactured from a compound which is lead free and hence most favored system in terms of health and safety, LOI of uPVC is 45, which means uPVC is not really burnable in atmosphere. Once the burning source is removed, it stops burning.

6. What is the recommended joint curing time?

Recommended Initial Set Time

Temperature Range	Pipe Size ½ to 1¼"	Pipe Size 1½" to 3"	Pipe Size 4" to 6"
15.5°C - 37.7°C	15 min	30 min	1 hrs
4.4°C - 15.5°C	1 hrs	2 hrs	4 hrs

Recommended Initial Cure Time

Temperature Range	Pipe Size ½ to 1¼"	Pipe Size 1½" to 3"	Pipe Size 4" to 6"
15.5°C - 37.7°C	6 hrs	12 hrs	24 hrs
4.4°C - 15.5°C	12 hrs	24 hrs	48 hrs

7. Any suggestion on Pump Room Application?

Any pump, when switched on, initially if generates very high pressure.

This pressure may cause damage to initial fittings in the system. To avoid this damage following precautions to be followed:

a. The ramp-up time to be increased. Because of increased ramp-up time, the pump gradually build the pressure. This will not damage the initial fittings in the system.

b. Immediately after the pump, 1st and 2nd fitting used should be of metal.

c. After the metal bends, the pipe and fitting selection should be of Schedule 80, and jointing to be done with 2 step solvent cement.

d. Proper supports to be used provided to avoid the sagging of piping

8. Reclaim Water Pipe

- Widest range of pipes and fittings from 1/2'' to 2''
- Lead free and durable
- UV and fire resistant
- Solvent weld plumbing system
- Cost effective
- Environment friendly
- Easy to install and low maintenance
- 100% inspection of both incoming and outgoing material
- Design registered alignment system
- Recommended by UIPC-I

9. Repair Patch

The Repair Patch is a flexible and durable permanent repair patch.

- The Repair Patch is ideal for use on PVC, steel, galvanized and copper piping of all shapes and sizes, flashings, HVAC ducting, wood and concrete.
- It bonds to practically any rigid surface of any material except polypropylene.
- The Repair Patch is watertight and resistant to extreme weather conditions.
- Curing is in direct sunlight or with U/V torch that is available with the product.
- The flexible material fits easily around anyangle.
- NOT SUITABLE for CPVC (hot water application) and Poly Propylene pipes.
- After curing, the Repair Patch can be sanded or painted as needed.
- It is rated up to 10.5 kg/cm pressure.Available in various sizes :– 3" x 6", 6" x 9", 9" x 12"

10. Water Hammer Arrestor (WHA)

WATER HAMMER is the term used to define the destructive forces, pounding noises and vibration which develop in a piping system when a column of non-compressible liquid flowing through a pipe line is stopped abruptly. Fast closing positive shutoff valves incorporated in plumbing system all contribute to creating water shock which is not only annoying but damaging to pipes and appliances..

The Ashirvad Water Hammer Arrestors are designed to elliminate this effect. It features construction to comply with requirements. It incorporates a precharged, permanent sealed air chamber to absorb the shock.The sealed chamber prevents the loss of air to the water and assures long and trouble-free life.

Features :

- BSP solid hex brass adapter or solder end connection for easy installation.
- Approved for installation with no access panel requirement.
- May be installed in new or existing plumbing systems with a standard pipe tee vertically or horizontally.
- Maintenance free – piston is the only moving part.
- Air pre-load is 60psi (4.20 bar) in the chamber.
- Factory air charged and permanently sealed.
- Long lasting product.

Ashirvad Aqualife limited warranty

Ashirvad Pipes Pvt. Ltd., Bengaluru warrants to the original owner that the product will be free from manufacturing defects and conform to current applicable ASTM standards under normal use. Buyers' remedy for breach of this warranty is limited to replacement of, or credit for, the defective product. This warranty excludes any expense for removal or reinstallation of any defective product and any other incidental, consequential or punitive damages.

The limited warranty will not apply if

1. Ashirvad products are used in combination with any other brand / make of pipes, fittings and solvent adhesive.
2. The product is used for purposes other than distribution of domestic water.
3. The product fails due to defects or deficiencies in design, engineering or installation.
4. The joints are not pressure tested before plastering of the casings.
5. The Installation manual for the use of the product is not followed.
6. The pipe is not warranted against any mechanical damage by nails, drilling, chiseling, etc.

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