



UNPPolyvalves

THERMOPLASTIC / FLUOROPOLYMER / FLUOROCARBON LINED -- VALVES & PIPING SYSTEM



PTFE / PFA / FEP /
ETFE / PVDF LINED



FLUOROPOLYMER &
THERMOPLASTIC

Authorised Dealer;
PUSHKARNA SALES PVT LTD.
4772. Hauz Qazi. Delhi-110006.
Phones; 011-43675881/9818453355.
Email; sales@pushkarnasales.com
Site; www.pushkarnasales.com

An answer to your corrosion problems

“HI-TECH”

An ISO 9001: 2008 Certified
Manufacturing Unit



About Us

UNP Polyvalves is a manufacturing giant that produces various types of corrosion free valves, pipes and pipe fittings manufactured in advanced engineering plastics.

Kicked off two decades ago, with manufacturing of ball valves ranging for 15 NB to 50NB, today UNP Polyvalves has the product range in valves comprising of Ball, Diaphragm, Butterfly, Ball Check, Foot, Sight glass, Sampling, Strainers, Lined valves, Pipes & Fittings etc. UNP Polyvalves also specializes in single shot molding capacity up to 30kg, which is an achievement in itself.

Envisioned for quality and reliability, UNP Polyvalves aims for highest level of customer satisfaction through its solutions with the commitment for excellence in all spheres of business.

Thus, UNP Polyvalves possesses live skill sets headed by highly knowledgeable, technically and administratively experienced entrepreneurs. These experts lead and guide the team of technically qualified engineers with a vision to offer elevated quality standards, optimum realization of value for money and satisfaction to the customers.

Over the years, UNP Polyvalves has been dealing with almost every leading chemical, petrochemicals, pharmaceuticals related giants in India and is also exporting to such projects overseas in the countries like Bangladesh, Brazil, Egypt, Indonesia, Kenya, Kuwait, Thailand, U.A.E, Morocco, Chile, Qatar, U.S.A. et.al.

To meet this ever growing demand. UNP Polyvalves has its base spread over three plants at Baroda, Gujarat, where full fledged manufacturing activities are carried out here under one roof. The company has its indigenous marketing base at Thane, Maharashtra to bump into its all kind of marketing and sales requirements. UNP Polyvalves also cherishes a team of well qualified technical experts for research and development as well for production.



Achievements

UNP Polyvalves has permanently resolved the problems for piping systems of Steel Industries, Chlor Alkali projects and many other chemical plants with introduction of right material of construction for their most aggressive and corrosive applications.

UNP Polyvalves has carried out numerous projects and has approvals of major Project Consultants such as UHDE, Jacobs H&G, Dalal Mott Macdonald, Chemtex, Toyo Engineering. TUV India, Aker Powergas, Kvaerner John Brown, EIL etc.





Special Purpose Hi-definition Valves



General Properties of Polymers

Technical Properties	Specific Gravity	Water Absorption (%)	Hardness Rockwell Yield PSI	Tensile Strength Notched Ft.lb/In	Impact Strength	Elongation At Break Temp. °C	HDT °C	Injeection Moulding	Max Working Temp°C
Normal Grade Polypropylene	0.90-0.91	0.01-0.03	50	4400	1.5-2.5	200	90	200-300	80-85
Isotactic Polypropylene	0.90	0.01	70	4800	2.2-2.7	200	142	200-300	120
PVDF	1.77-1.78	0.03	76-80	7000	2.0-4.0	50-250	168	200-300	-40 to +140
ETFE	1.70	0.007	75	6700	2.0	300	176	310-330	-100 to +160
FEP	2.15	0.004	60	3400	2.9	325	260	350-370	205
PFA	2.15	<0.03	72	3600	1.2	300	305	350-370	260

Advantages of Isotactic Polypropylene v/s Normal Grade PP

- Isotactic Polypropylene is a fractional MFI homopolymer therefore it has sufficiently better toughness than any other homopolymer.
- Due to the presence of atmospheric oxygen, Degradation and Oxidation of normal grade PP is inevitable, even when there is no direct sunlight, while ISOTACTIC POLYPROPYLENE is immune to such degradation & oxidation.
- Chemical resistance of ISOTACTIC PP is more than that of normal grade PP even at an elevated temperature.
- Isotactic polypropylene has excellent heat resistance upto 120°C as against 85-90°C of normal grade PP, w.r.t water.
- This grade is proven in pickling lines (CRM) as well as ARP in steel Industries for handling HCL containing ferrous & ferric chloride at an elevated temp, upto 110°C.
- This grade is also proven in Caustic Chloro Plant for application in brine for Anolyte and Catholyte service upto 100°C temp.
- This grade is also proven in application of HCL with solvent traces such benzene, toluene etc. at an elevated temperature up to 110°C.

Minimum life expected in hours for three continuous service temperature levels.

Formulation	At 120°C	At 100°C	At 80°C
Isotactic Polypropylene	18,000 (2 Yrs)	1,04,000 (12 Yrs)	7,15,000 (80 Yrs)

Polyvinylidene Fluoride (PVDF)

- Exceptional outdoor weather resistance, due to its transparency and total inertness to ultraviolet light.
- Excellent resistance to most of the chemicals.
- Remarkable thermal stability under operating and processing application temperatures. It does not darken when subjected to heat.
- Good abrasion resistance, enabling it to be used with slurries.
- Very low creep.
- High mechanical strength.
- The crystalline content of PVDF was chosen in order to obtain excellent properties, such as low permeability to gases & fluids as well as low swelling in certain solvents, while retaining a high impact resistance, good stress cracking resistance and a very high dimensional stability.
- PVDF may be used over wide temperatures from 40°C to +140°C. It is non flammable and may be used for contact with foodstuffs.

Ethylene Tetra Fluoro Ethylene (ETFE)

- It has very high temperature resistance from -100°C to +160°C.
- It is resistant to a wide variety of corrosive chemicals and organic solvents, including strong acids, and strong bases. No known solvent dissolves or stress cracks the polymer at temp, up to 121°C.
- It possesses excellent mechanical properties over a wide temperature from cryogenic temperature to 204°C. It has nylon like durability and provides excellent impact resistance at ambient and subambient temperatures.
- It is fluoropolymer which is mouldable & weldable with an ordinary thermoplastic welding equipment.

Teflon FEP “Perfluoro (Ethylene Propylene) Copolymer”

- FEP is a fluorocarbon resin having very strong interatomic bonds between carbon & fluorine atoms.
- It has very high molecular Weight or long molecular chain length compared to other polymers.
- FEP can be used for continuous service temperature upto an elevated temperatures as high as 205°C (400°F).
- This fluorocarbon is resistant to all chemicals aggressive and hazardous in nature.
- Absorption rate of this fluorocarbon is as lower as 0.004%, hence swelling is avoided, and permeation is negligible.

PFA (Per Fluoro Alkoxy)

PFA is also a Fluorocarbon resin with all other properties same as FEP but can be used for Continuous service temperature up to an elevated temperature as high as 260°C



Thermoplastic Manual Valves

SIZE RANGE
15mm to 600mm



DIAPHRAGM VALVE
(Advanced Version)



DIAPHRAGM VALVE
(Advanced Version)



DIAPHRAGM VALVE



DIAPHRAGM VALVE



BALL VALVE
Flanged End



BALL VALVE
Threaded End



BUTTERFLY VALVE
Lever Operated



BUTTERFLY VALVE
Gear Operated



CHECK VALVE
Ball Type - Flanged End



SWING CHECK VALVE
Wafer Type



SAMPLING VALVE
Flanged Type



SAMPLING VALVE
Sandwich Type



FOOT VALVE
Flanged End



SIGHT GLASS
Flanged End



STRAINER
'T' / Basket Type

Thermoplastic Valves & Piping System Made Out of
Polypropylene
HHS Isotactic P.P.
PVDF
ETFE (Tefzel)
UPVC
CPVC



Fluoropolymer Lined Valves

SIZE RANGE
15mm to 600mm



LINED DIAPHRAGM VALVE
Hand Wheel Operated



LINED BUTTERFLY VALVE
Lever Operated



LINED BUTTERFLY VALVE
Gear Operated



LINED BALL VALVE
Lever Operated



LINED BALL CHECK VALVE



LINED SWING CHECK VALVE



LINED 'Y' TYPE STRAINER



LINED SIGHT GLASS
Full View Type



LINED SIGHT GLASS
Double Window



Thermoplastic Actuated Valves

SIZE RANGE
15mm to 600mm



PNEUMATICALLY ACTUATED
Diaphragm Valve



ELECTRICALLY ACTUATED
Diaphragm Valve



PNEUMATICALLY ACTUATED
Ball Valve



ELECTRICALLY ACTUATED
Ball Valve



PNEUMATICALLY ACTUATED
CPVC Butterfly Valve



PNEUMATICALLY ACTUATED PPH
Butterfly Valve



ELECTRICALLY ACTUATED
Butterfly Valve



Fluoropolymer Lined Actuated Valves

SIZE RANGE
15mm to 600mm



ELECTRICALLY ACTUATED
Lined Ball Valve



PNEUMATICALLY ACTUATED
Lined Ball Valves



ELECTRICALLY ACTUATED
Lined Diaphragm Valve



PNEUMATICALLY ACTUATED
Lined Diaphragm Valve



PNEUMATICALLY ACTUATED
Lined Butterfly Valve



ELECTRICALLY ACTUATED
Lined Butterfly Valve



Thermoplastic Pipes & Fittings

SIZE RANGE
15mm to 355mm



PIPES PVDF
Plain Ends



PIPES PP / ISO.PP / PPH
Plain Ends



CONCENTRIC REDUCERS
PP / ISO.PP / PPH / PVDF
ENDS : BUTT WELD



COUPLINGS
PP / ISO.PP / PPH / PVDF
ENDS : SOCKET WELD



ELBOWS
PP / ISO.PP / PPH / PVDF
ENDS : SOCKET WELD



BENDS 90° PVDF
BUTT WELD ENDS



FLBOW 90° PVDF
BUTT WELD ENDS



ELBOW 45° SOCKET WELD ENDS
PVDF / PP / ISO.PP / PPH



STUB ENDS PVDF ENDS :
BUTT WELD - LONG NECK



STUB ENDS
PP / ISO.PP / PPH PVDF ENDS :
BUTT WELD - SHORT NECK



SOCKET WELD STUB ENDS
PP / ISO.PP / PPH PVDF ENDS :



FLANGES
PP / ISO.PP / PPH / PVDF
SLIP ON & PIPE BORE



EQUAL TEES
PP / ISO.PP / PPH / PVDF ENDS :
SOCKET WELD



EQUAL TEE PVDF
BUTT WELD ENDS

Thermoplastic Piping System
made out of
Polypropylene
HHS Isotactic P.P.
PVDF
UPVC
CPVC



Fluoropolymer Lined Pipes & Fittings

SIZE RANGE
15mm to 600mm



LINED ELBOW 90°



LINED ELBOW 45°



LINED EQUAL TEE



LINED REDUCING TEE



LINED EQUAL CROSS



LINED REDUCING FLANGE



LINED REDUCER



LINED PIPE

Fluoropolymer Lined Piping System made out of :

- PTFE
- PVDF
- FEP
- PFA
- ETFE
- ECTFE



Speciality Valves

SIZE RANGE
150 mm to 1500 mm



DAMPER GEAR, PNEUMATICALLY & ELECTRICALLY ACTUATED



**STRAINER 'T' / BASKET TYPE
LARGE SIZE**



**CHECK VALVE
FLOAT TYPE VERTICAL INSTALLATION-LARGE SIZE**



**CHECK VALVE
FLOAT TYPE HORIZONTAL INSTALLATION - LARGE SIZE**



Caustic & Brine Distribution Header Pipe



Caustic and Brine distribution header pipes are a vital component of caustic chloro plant, manufacturing caustic soda with membrane cell technology.

These header pipes are installed in combination of left and right on electrolyser of caustic chloro plant. Different electrolysers have requirements of various numbers of nozzles on header pipes depending on the capacity of electrolysers.

Entire ranges of 14 nos., 17 nos., 21 nos. and 34 nos. are manufactured by us.

These pipes are subjected to elevated temperatures upto 110°C, and are manufactured from special grade Isotactic PP, the most suitable material of construction for such application.

The pipes are in operation in the leading caustic chloro plants in India for last 9 years.

LIST OF OUR ESTEEMED CUSTOMERS

CONSULTANT WITH WHOM OUR PRODUCTS ARE APPROVED

Aker Powergas Pvt Ltd	Kaverner John Brown Limited	Shroff & Associates Pvt Ltd
Chempro Expertise Pvt Ltd	KTI India Limited	Simon India Limited
Chemtex Engineering of India Limited	Lele & Associates	SNS Lavlin Associates
Engineer India Limited	Lurgi India Limited	Tata Consulting Engineering
Furnace Fabrica India Ltd	M. N. Dastur & Company Limited	Tata Projects
Hindustan Door Oliver Limited	Monsanto-DMCC Environ tech Limited	Technimont ICB Limited
IBI Chematur (Engg & Consultancy) Ltd	Mott McDonald Limited	Toyo Engineering India Limited
Idea Babcock	Protech Consultants Pvt Ltd	TUV India Pvt Limited
Jacobs Engineering India Pvt Ltd	Shriram Projects Limited	UHDE India Limited

CHLOR ALKALI PLANTS

Aditya Birla Nuvo Ltd (Indian Rayon)	Veraval	Meghmani Finechem Ltd	Dahej
Aditya Birla Chemicals Ltd (Bihar Caustic)	Jharkhand	Nirma Limited	Bhavnagar
Andhra Sugar Limited	Kovvur / Saggonda	NRC Limited	Sahad
Atul Limited	Valsad	Punjab Alkalies & Chemical Ltd	Naya Nangal
Century Rayon	Sahad	Reliance Industries Ltd (IPCL)	Dahej
Chemfeb Alkalies & Chemicals Ltd	Pondicherry	United Phosphorus Ltd (Search Chem Industries)	Jhagadia
Chemplast Sanmar Ltd	Karaikal / Mettur Dam	Shriram Alkalies and Chemical Ltd	Jhagadia
DCW Limited	Sahapuram, TN	Shriram Vinyl & Chemicals Ltd	Kota
Gujarat Alkalies & Chemical Ltd	Baroda & Dahej	Siel Chemical Complex	Rajpura
Gujarat Fluoro Chemicals Ltd	Dahej	Sree Rayalseema Alkalies & Chemicals Ltd	Kurnool
Grasim Industries Ltd (Chemical Division)	Nagda Tamilnadu	Petroproducts Ltd	Chennai
Hukumchand Jute & Industries Ltd	Shadol	Tata Chemicals Ltd	Mithapur
Jayshree Chemicals Ltd	Orissa	Teamec Chlorates Ltd	Andrapradesh
Kanoria Chemicals Ltd	Renukoot	Travencore Cochin Chemicals Ltd	Cochin

COLD ROLLING MILLS & STEEL INDUSTRIES

Bhushan Power & Steel Ltd	Orissa	Aquatech Asia Ltd	Mumbai
Essar Steel Ltd	Hajira	Andritz Ltd	Bangalore
Hindalco Industries Ltd (Birla Copper)	Dahej	CMI FPE Ltd	Andheri, Mumbai
Hindustan Copper Ltd	Khetri	Doshi-Ion Ltd	Mumbai
Hindustan Zinc Ltd	Debari & Visakhapatnam	Driplex Water Engineering Ltd	Mumbai
ISPAT Industries Ltd	Kalmeshwar	Furnace Fabrica India Ltd	Mumbai
Jhagadia Copper Ltd	Jhagadia	GEA Energy System Ltd	Chennai
JSW Ltd	Vasind	Hindustan Door Oliver Ltd	Bangalore
Jindal Iron & Steel Co Ltd	Tarapur	Hollow Block Mfg Co	Thane
JSW Ltd	Hissar	Ion Exchange India Ltd	Navi Mumbai
Lloyds Steel Industries Ltd	Wardha	ISSI	New Delhi
NMDC Ltd	Visakhapatnam	KTI Ltd	New Delhi
Panchmahal Steel Ltd	Halol	Multiform Machinery Bombay Pvt Ltd	Mumbai
Nicomet Industries Ltd	Mumbai & Goa	Paramount Pollution Control Ltd	Baroda
Steel Authority of India Ltd	Bokaro	Rotex Ltd	Dombivali
Steel Authority of India Ltd	Salem	Sulzer India Ltd	Pune
Steelco Gujarat Ltd	Palaj	SNS Lavlin Associates	Mumbai
SWIL Ltd	Jhagadia	Shachi Engineering Pvt Ltd	Pune
Tata SSL Ltd Boisar	Borivili & Navsari	VA-Tech Wabag	Pune, Chennai
Thyssen Krupp Electrical Steel India Pvt Ltd	Nasik	Wipro Water Ltd	Navi Mumbai
Tinplate Co of India Ltd	Jamshedpur		
Uttam Galva Ltd	Khopoli		

ORIGINAL EQUIPMENT MANUFACTURERS

CHEMICAL & PHARMACEUTICAL INDUSTRIES

Anshul Chemicals Pvt Ltd	Mumbai	Gharda Chemicals Ltd	Dombivali
Arti Organics Ltd	Vapi	Hindustan Lever Ltd	Taloja
Amoli Organics Ltd	Ekalbara	Indian Organics	Khopoli
Andhra Pradesh Rayons Ltd	Secunderabad	Lupin Ltd	Ankleshwar & Panoli
BASF Ltd Navi	Mumbai & Mangalore	Pesticides India Ltd	Panoli & Udaipur
Ballarpur Industries Ltd	Ballarpur	Phthalo Colours & Chemicals (I) Ltd	Vapi
Bharat Rasayan Ltd	Rohtak	Pfizer Ltd	Chandigarh
Bamni Proteins Ltd	Chandrapur	Ranbaxy Laboratories Ltd	Dewas, Manoli & Ropar
BPCL	Mumbai	Solaries Chemtech Ltd	Karwar, Khavda & Vadodara
Bayer India Ltd	Thane, Maharashtra	SRF Ltd	Bhiwadi, Rajasthan
Cheminova India Ltd	Panoli	South India Bromides & Chemicals Ltd	Tuticorin
Camphor & Allied Products	Mumbai	Sun Pharmaceuticals Ind Ltd	Panoli
Clariant India Ltd	Thane & Roha	Transpek Industry Ltd	Baroda
Daurala Organics Ltd	Daurala	The Dharmi Morarjis Chemical Ltd	Anbarnath
DSM Anti Infectives Ltd	Mohali	The Andhra Pradesh Paper Millss Ltd	Rajamundri
Emcure Pharma Ltd	Pune	Trichy Distilleries & Chemicals Ltd	Tiruchirappalli
Exide Industries Ltd	Pune & Taloja	United Phosphorus Ltd	Vapi
Galaxy Surfactants Ltd	Navi Mumbai	Vasant Chemicals Ltd	Hydrabad
Gemini Distilleries Ltd	Nanjangad	Wochardt Ltd	Mumbai & Ankaleshw

www.polyvalve.com



UNP Polyvalves (India) Pvt. Ltd.



Member

THANE

207, Orion Business Park, Next to Cine Max, Kapurbawdi, Ghodbunder Road, Thane (W) - 400 607. INDIA.
Phone : +91-22-25896422, 25896524 / 25 | Fax : +91-22-25894221 | Email : mktg@polyvalve.com

VADODARA UNIT-1

946 GIDC, Makarpura, Vadodara - 390 010. INDIA. | Phone : +91-265-2649248, 2632628 | Fax : +91-265-2637379

VADODARA UNIT-2 - "HI-TECH" (An ISO 9001:2008 Certified)

988/14 GIDC, Makarpura, Vadodara - 390 010. INDIA. | Phone : +91-265-2630467, 3252883
Fax : +91-265-2630457



VADODARA UNIT-3

748/4 GIDC, Makarpura, Vadodara - 390 010. INDIA.

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