PROCEDURE

Customer

Send drawing



Make Isometric drawings

1 Make Isometric drawings and create quotation



2 Order Comfirm drawing and order

Fittings

3 Receiving drawings



4 Pick necessary parts



5 Packaging



Pipes

6 Receiving pipes

6 Safekeeping



8 Cut pipes & winding (1)



8 Cut pipes & winding (2)



8 Cut pipes & winding (3)



Assemble pipes & fittings

10 Assemble



11 Leak test



12 Inspection



15 Loading& delivery



14 Safekeeping



12 Packaging & stick labels



Installation

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PHONE +(66) 02-361-4446-50 FAX +(66) 02-361-4451
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INOAC Housing & Construction Materials Co.,LTD.
2-70 Jinno-cho, Atsuta-ku, Nagoya, Japan 456-0068
TEL : (+81) 52-684-0266 FAX : (-81) 52-684-0277
http://www.inoac.co.jp/juukan/en/
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INOAC

OYU-POLY Tube series

Flexible cold & hot water supply system for in-house use

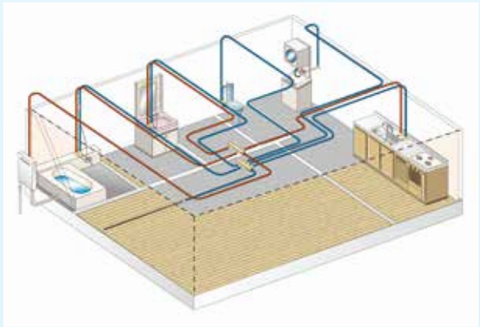




INOAC Housing & Construction Materials Co.,Ltd.

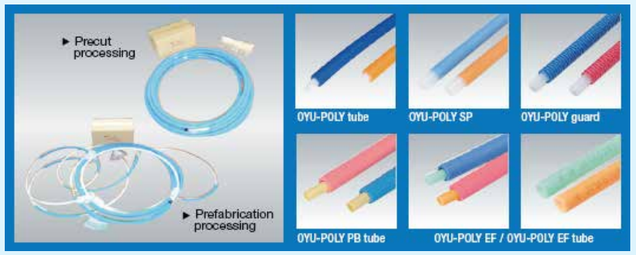
"OYU-POLY" series

Flexible cold & hot water supply system for in-house use :



We provide a "comfortable life" for you with a production line-up that can realize "Energy-savings," "Environment," Safety," "High durability/Long life span" required for future housing.

"OYU-POLY series" This series adopts cross-linked polyethylene pipes with superior cold resistance, heat resistance with an assortment of casings. We realize "labor-saving construction" "on-site zero waste generation," and "quality assurance" by precut/prefabrication processing of in-house cold & hot water supply piping for each home.



Product features

1. **Excellent flexibility**
   - Bendable by hand
   - Can reduce fittings
2. **Excellent presure/temperature resistance.**
   - Easy to connect
   - No special skill required
   - Japan quality, no leakage.
   - Saving installation time,Saving cost.
3. **Available various fittings**
   - Over wide range of in-house use
   - Longer life & higher reliability
4. **Next generation plumbing system in South East Asia.**

Application :

- Residential cold water
- Residential hot water

Standard reference

JIS K6769	Crosslinked polyethylene (PE-X) pipe
JIS K6787	Crosslinked polyethylene (PE-X) pipe
JIS K 6778	Polybutylene
JIS K 6709	Polybutylene

Material

Crosslinked polyethylene (PEX)
Polybutylene (PB)



Product features

Comparison of PEX, PB, PE-RT vs PP-R

Properties/Type of pipe		PEX	PB	PE-RT	PP-R
Pressure resistance		Excellent (✓) 95°C : 0.65MPa	Good 90°C : 0.4MPa	Good 95°C : 0.4MPa	Good 95°C : 0.4MPa
Flexibility		Good Easy to bend by hand	Excellent (✓) Easy to bend by hand	Excellent (✓) Easy to bend by hand	No Good Difficult to bend
Workability (Product length)		Coiled pipe (✓) (Reduction fitting)	Coiled pipe (✓) (Reduction fitting)	Coiled pipe (✓) (Reduction fitting)	Straight pipe (Need many fitting)
Fitting	Method	Variety (✓) (Electro Fusion, One-push, Compression)	Variety (✓) (Electro Fusion, Socket Fusion, One-push, Compression)	Variety (✓) (Electro Fusion, Socket Fusion, One-push, Compression)	Limited (Socket fusion)
	Need skill or not	Not required (✓)	Not required (✓)	Not required (✓)	Required
	Installation speed	Fast (✓)	Fast (✓)	Fast (✓)	Slow
Elongation at break		Good (✓)	Good (✓)	Good (✓)	No Good
Linear expansion coefficient		Good (✓)	Good (✓)	Good (✓)	Fare
Durability		Excellent (✓) 95°C : 0.65MPa	Good	Good	Good
Generality	JAPAN, EU	Popular (✓)	Popular (✓)	Increase	Few

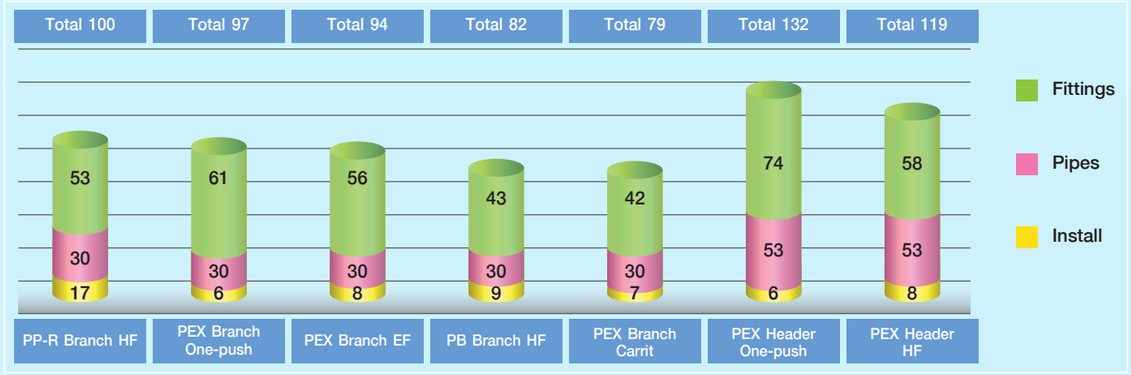
Material physical properties

Material Physical Properties of PEX, PB, PE-RT vs PP-R

Properties		PEX	PE	PE-RT	PP-R
Density (g/cm)		0.93	0.92	0.94	9
Tensile strength at yield (Mpa)		>16	18	20	25
Heat conductive (W/mk)		0.35 - 0.47	0.2	0.4	0.24
Heat resistance (°C)		95	90	90	95 C
Vicat Softening Point (°C)		118 133	-	125	-
Melting Point (°C)		-	128	-	150 - 154
Workability	Product Length	Coiled pipe	Coiled pipe	Coiled pipe	Straigh pipe

Material physical properties

Material Physical Properties of PEX, PB, PE-RT vs PP-R



PEX SERIES

1. PIPE



Product code	OD (mm)	Thickness (mm)	ID (mm)	Coil Length (m)	Minimum bending radius (cm)
XLK-L	13	1.6	9.8	120	15
XLK-13L	17	2.1	12.8	120	15
XLK-16L	21.5	2.65	16.2	120	20
XLK-20L	27	3.25	20.5	100	30

Maximum operational pressure & usage temperature of PEX tube

Type	Temperature (°C)	0-20	21-40	41-60	61-70	71-80	81-90	91-95
PN-15	Operational Pressure (MPa)	1.50	1.25	0.95	0.85	0.75	0.70	0.65

**PN-15 : Max operational pressure is 1.50MPa with 20 degree C water*

Preinsulated pipe

OYU-POLY pipe



Product code : HXL- ~
PEX pipe covered with polyethylene foam
Feature : Good insulating property with PE foam.
Thickness of insulating foam is available :
3mm / 5mm / 10mm / 20mm

OYU-POLY GUARD



Product code : GXPI/GXBU- ~
PEX pipe covered with corrugated pipe :
Feature : Allows flexible work and no damage in piping work.
Easy to cover and take off the pipe.

OYUPOLY SP



Product code : XLSP- ~
PEX pipe covered with flexible elastomer :
Feature : Prevents from scratch in piping work
Good space performance
Easy to pull off the elastomer at the pipe edge

2. PEX E type pipe



Product code	OD (mm)	Thickness (mm)	ID (mm)	Coil Length (m)	Minimum bending radius (cm)
EXL-13R	17	2.1	12.2	200	15
EXL-13G	17	2.1	12.2	200	15
EXL-16R	21.5	2.65	15.6	100	20
EXL-16G	21.5	2.65	15.6	100	20
EXL-20R	27	3.25	19.9	100	20
EXL-20G	27	3.25	19.9	100	20

Maximum operational pressure & usage temperature of PEX tube

Type	Temperature (°C)	0-20	21-40	41-60	61-70	71-80	81-90	91-95
PN-15	Operational Pressure (MPa)	1.5	1.25	0.95	0.85	0.75	0.7	0.65

**PN-15 : Max operational pressure is 1.50 Mpa with 70 degree C water*

Pre-insulated pipe

OYUPOLY E



Product code : EXL- ~
PEX pipe covered with polyethylene foam
Feature : Good insulating property with PE foam.
Thickness of insulating foam is available :
5mm / 10mm

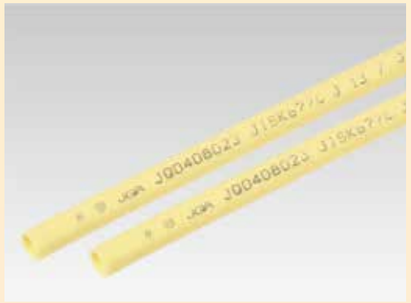
OYU-POLY GUARD



Product code : WSEPI/WSEBU- ~
PEX pipe covered with corrugated pipe :
Feature : Allows flexible work and no damage in piping work .
Easy to cover and take off the pipe.

PB Series

PB Series



Product #	OD (mm)	ID (mm)	Coil Length (m)
PBI-10	13	9.8	120
PBI-13	17	12.8	120
PBI-16	22	16.2	120
PBI-20	27	21.5	100

**PB is Made to order*

Operational Presure (MPa)	5-30	31-40	41-50	51-60	61-70	71-81	81-91
Mpa	1.0	0.9	0.8	0.7	0.6	0.5	0.4

2. Preinsulated pipe

OYU-POLY PB



Product code : HPB ~
PB pipe covered with polyethylene foam
Feature : Good insulating property with PE foam.
Thickness of insulating foam is available :
3mm / 5mm / 10mm / 20mm

OYU-POLY PB SP



Product code : PBSP ~
PB pipe covered with flexible elastomer :
Feature : Prevents from scratch in piping work
Good space perfor Prevents from damage in piping work
Easy to pull off the elastomer at the pipe edge

Various fitting

1. One Push fitting (PEX. PB)



Feature :
- Possible to connect without tool
- No required special skill
- Double O-ring
- Double pipe lock ring

2. Compression fitting (PEX.PB)



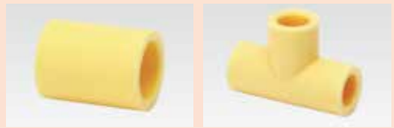
Feature :
- Traditional fitting
- NO required special skill

3. Electro fusion fitting (PEX)



Feature :
- Same material with pipe
- Reliaability compose with O-ring
- Surely fusion by automatic EF

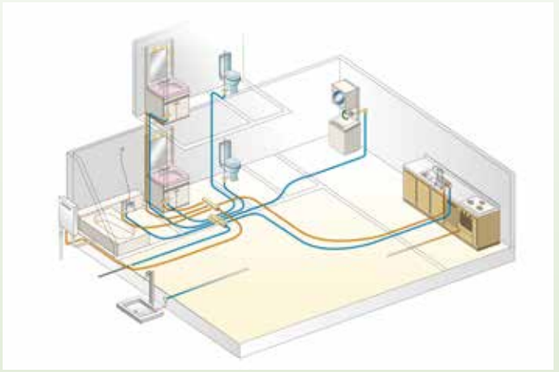
4. Socket fusion fiting (PB)

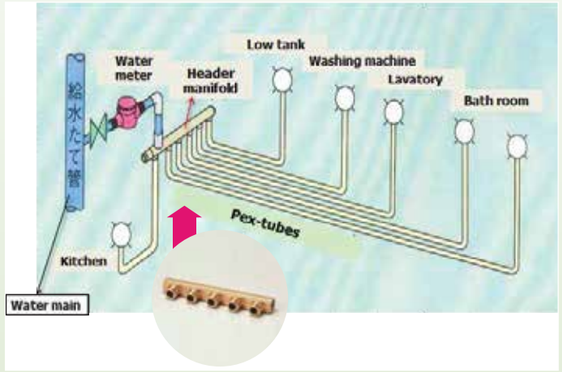


Feature :
- Same material with pipe
- Reliaability compose with O-ring

Installation method

1. Header plumbing system





features :

1. Comfortable system
   Header piping system can decrease the variation of flow rate and water pressure under simultaneous use.
   Less variation of water flow or temperature
   Shorter warming-up time
   Higher efficiency of water saving





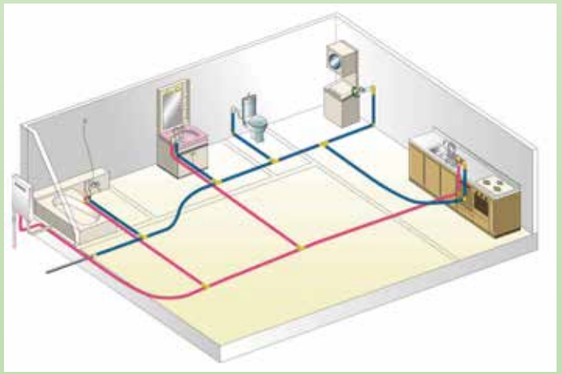


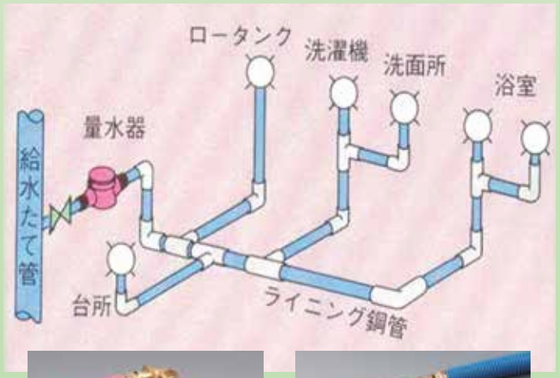
2. Easy-to-install (excellent workability)
   Connection work is required only at header and faucet part.
   Decrease of connection works
   One-push fitting used in connecting
   Less on-site works



3. Higher reliability
   Less probability of leakage
4. Easy management
   Each flow system can be managed by each header

2. Branch plumping system









Major features

- Shorter length in piping
- Possibly cost effective.

Pre-cut/Prefabrication processing

Pre-cut





Features :

1. On-site zero waste generation
2. Labor-saving construction
3. No required special installation skill

Prefabrication processing









Features :

1. Reduction of risk for water leakage
2. On-site zero waste generation
3. Labor-saving construction
4. No required special installation skill