

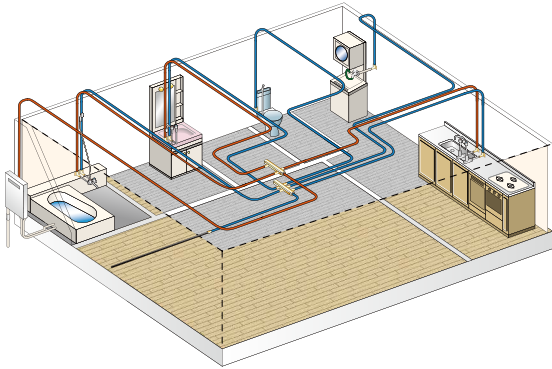
OYU-POLY series

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

**2017**

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-savings construction” “on-site zero waste generation,” and “quality assurance” by precut / prefabrication processing of in-house cold & hot water supply piping for each home.

ISO product



JIS products

OYU-POLY



OYU-POLY PB



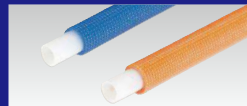
OYU-POLY EF



OYU-POLY SP



OYU-POLY tube



OYU-POLY PB tube



OYU-POLY EF tube



OYU-POLY GUARD



Product feature

1. Excellent flexibility
 - Bendable by hand
 - Can reduce fittings
2. Excellent pressure/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 and other areas.

Application :

- Residential cold water
- Residential hot water

Standard reference

ISO15875-2	Crosslinked polyethylene (PEX) pipe
JIS K6769	Crosslinked polyethylene (PEX) pipe
JIS K6787	Crosslinked polyethylene (PEX) pipe
JIS K 6778	Polybutylene
JIS K 6709	Polybutylene

Material

Crosslinked polyethylene (PEX)
Polybutylene



Product feature

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
Vicat Softening Point (°C)		118 133	-	125	-
Melting Point (°C)		-	128	-	150 - 154
Workability	Product Length	Coiled pipe	Coiled pipe	Coiled pipe	Straigh pipe

Pressure and Temperature Limits

Equation for calculating pressure and temperature limits

$$P = \frac{2 \sigma t}{D - t} \quad (\text{Naday's equation})$$

P : Pressure, MPa

t : Pipe thickness, cm

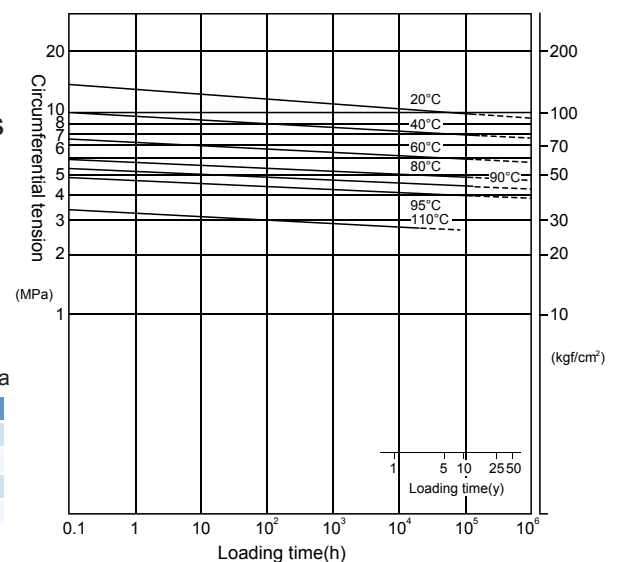
σ : Tensile circumferential stress, MPa

D : Outer pipe diameter, cm

Unit : Mpa

OD	20°C	40°C	60°C	80°C	90°C	95°C
16	1.85	1.47	1.10	0.90	0.80	0.72
20	1.44	1.14	0.86	0.70	0.62	0.56
25	1.44	1.14	0.86	0.70	0.62	0.56
32	1.34	1.06	0.80	0.65	0.58	0.52

*Safety factor = 1.5



PEX series

1. PIPE for ISO



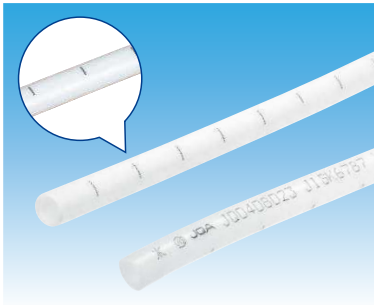
Product code	OD (mm)	Thickness (mm)	Thickness tolerance (mm)	Coil Length (m)	Weight (kg)
XLK-16Y	16	2.0	+0.2,-0	210	17.5
XLK-20Y	20	2.0	+0.2,-0	160	17.2
XLK-25Y	25	2.5	+0.2,-0	100	16.8
XLK-32Y	32	3.0	+0.2,-0	70	18.2

Product feature

- ISO15875-2 PEX-b single pipe compatible with Mechfit/Carrit fittings.
- Certified with WRAS
- High flow characteristics: less adhesion of scale or calcium.
- No electrolytic/pitting corrosion unlike metal pipes.
- Flexibility/Lightness/Long durability
- Eco-friendly: no chlorine in the materials which causes dioxin problems.



2. PIPE for JIS



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

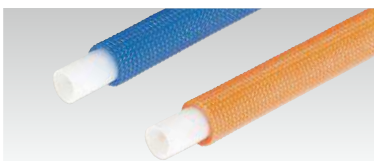
Maximum operational pressure & usage temperature of PEX tube

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

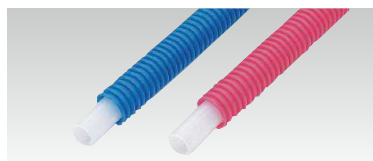
Pre-insulated pipe

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

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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.

OYU-POLY SP



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

3. PEX E type pipe for JIS



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

OYU-POLY 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 E Set up type



Product code : WSEPI/WSEBU-**

PEX pipe covered with corrugated pipe and sound absorption sheet

Feature : Allows flexible work and no damage in piping work.
Sound absorption

PB series

PB Series for JIS



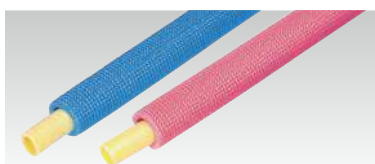
Product code	OD (mm)	ID (mm)	Coil Length (m)
PBI-10	13	9.8	120
PBI-13	17	12.8	120
PBI-16	22	16.8	120
PBI-20	27	21.5	100

*PB is Made to order

Temperature (°C)	5-30	31-40	41-50	51-60	61-70	71-80	81-90
Operational Pressure (MPa)	1.0	0.9	0.8	0.7	0.6	0.5	0.4

Pre-insulated pipe

OYU-POLY PB



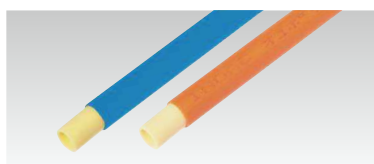
Product code : HPB-**

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 PB SP



Product code : HLSP-**

PEX pipe covered with flexible elastomer:

Feature : Prevents from scratch in piping work
Good space performance 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 :

- Connectable without tool
- No required for special skill
- Double O-ring
- Double pipe lock ring

2. Compression fitting (PEX.PB)



Feature :

- Traditional fitting
- No required for special skill

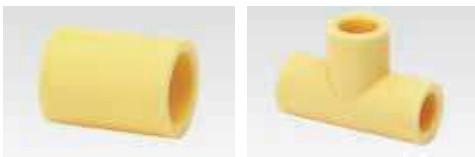
3. Electro fusion fitting (PEX)



Feature :

- Same material with the pipe
- Reliability : Composing without O-ring
- Surely fused by automatic EF controller

4. Socket fusion fitting (PB)



Feature :

- Same material with the pipe
- Reliability : Composing without O-ring

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