

uPVC PIPE

UNILON®

SYMBOL OF HIGH QUALITY PIPE

OUR PROFILE

UNILON is a well established uPVC and HDPE Pipe brand for Indonesia and Asian Market.

UNILON, produced since 1992, has become a reliable partner for a number of professionals and valuable national corporate customers. *The national drinking water companies* expanded their coverage service area with a reliable piping system provided by UNILON while *building and housing developers* are also enabled to design and build properties with advance plumbing system from UNILON and a longer-lasting operational lifetime.

In the early days, a two hectares factory was only consisted three units of extrusion lines with yearly processing capacity of 12,000 MT. Within 15 years, the number of extrusion line has grown up to 19 production lines with processing capacity of 60,000 tons per year and requires more than 6 hectares of space to conveniently facilitate the operational activities.

Total annual turnover has grown 20% in average since 2002 to 2005. Major components of this growth are coming from *the national drinking water projects, high rise buildings in Jakarta, telecommunication network expansions projects and a small percentage of the export market.*

Plastic pipe industry really does provide a promising future for UNILON to expand into a new product line. New material technology and piping accessories are the new areas which will become further upgrades for UNILON's business and all stakeholders in the future.



PREVIOUS PROJECTS

Proyek Air Bersih PDAM: Kab. Jepara	2003
Proyek Air Bersih PDAM: Kab. Grobogan	2003
Proyek Air Bersih PDAM: PDAM Subang	2003
Proyek Air Bersih PDAM: PU. Jabar	2003
National Water Supply and Drainage Board Galle Road Ratmalana, Srilanka	2004
National Design & Contruaction Dhaka - Bangladesh	2004
Proyek Air Bersih PDAM Kota – Surabaya	2004
Proyek Air Bersih PDAM:PT.Pam – Jakarta	2005
Proyek Air Bersih PDAM:PDAM Kota – Surabaya	2007
Proyek Air Bersih PDAM:Proyek. Garut	2007
Proyek Air Bersih PDAM:Proyek. Sumatera Barat	2007
Proyek Air Bersih PDAM:PT.Pam – Jakarta	2007
Proyek Air Bersih PDAM:Proyek. Bantul	2007
Proyek Air Bersih PDAM:Proyek. Jambi	2007
Proyek Air Bersih PDAM:Proyek Kupang	2007
Proyek Air Bersih PDAM:Proyek Pontianak	2007
Proyek Air Bersih PDAM:Proyek Purwokerto	2008
Proyek Air Bersih PDAM:Proyek Gresik	2007, 2008
Proyek Air Bersih PDAM:Proyek Sulsel	2003, 2007, 2008
Proyek Air Bersih PDAM: Kab. Lebong-Bengkulu	2008

Apartment:

Gading Serpong Real Estate
Park View Apartment
The Peak Sudirman
Taman Anggrek
Ritz Carlton
Marina Mediterania, Ancol
Adiwangsa, Surabaya
Thamrin Resident
Kelapa Gading Square, JKT
Mall of Indonesia, JKT

Shopping Center

Margo City, Depok JKT
Roxy Square, JKT
Bandung Trade Center
WTC Mangga Dua
Pasar Manggarai
Latumenten City – JKT
Palembang Trade Center

Office

CBD Pluit
BSD Sudirman



WINNER OF:
SNI
Award
 2006 & 2008

General Properties & Appearance

- Material Specification: uPVC - Unplasticized Polyvinyl Chloride, Resin Form. CaCO₃ Additives
- Characteristics: Rigid, Smooth and Glossy Internal and External Surface
- Color: Grey & White
- Length: 4 and 6 Meter/Length
- Connection: Solvent Cement Joint or Rubber Ring Joint

Application

- Drinking Water and Drainage System
- Household, Water Treatment, Public Water Distribution
- Farming, Mining, High-Rise Building, Underground Cable Protection

Benefits

- Lightweight, Non-Toxic, No-Fuss Installation
- Electric and Magnetic Insulator, Inflammable
- Excellent Weather Resist, Outdoor Installation, No Reduction in Strength and Ductility

Standards

- | | |
|---|---|
| - Drinking Water Application | : ISO 4422 - 1996(E) / SNI - 06 - 0084 - 2002 |
| - Water Service and Drainage Pipe Specification | : JIS K - 6741 - 6742 |
| - Underground Cable Protection | : STEL - L - 008 - 2001 |
| - PVC SNI Fittings | : 06 - 0135 - 1987 |

UNILON uPVC PIPES RAW MATERIAL

Tests	Symbol	Unit	Value at 20°
Specific gravity			1.38 - 1.45
Shore D			70 - 90
Rockwell R			110 - 120
Water absorptivity		mg / cm ²	1.05
Flammability			Self extinguishing
Weather resistance			Color fading without degradation
Short-term tensile strength	O _T max O _T T	kg / cm ²	530
Long-term tensile strength		kg / cm ²	270
Elongation at rupture by short time tension		%	100 - 150
Young's modulus E (vibration method)	E m	kg / cm ²	3.4 x 10 ⁴
Poisson's ratio m			2.7
Bending-strength	O _B max	kg / cm ²	900 - 1100
Shearing- strength	O _B max	kg / cm ²	650
Change by temperature	Secondary (glass) transition point		C
	Primary transition (softening) point		C
	Fabricating temperature		C
	Welding temperature		C
	Moulding temperature		C
	Decomposition point		C
Specific heat		Kcal / kg-C	0.20 - 0.28
Thermal conductivity		Kcal / m-h-C	0.12 - 0.14
Coefficient of linear expansion		/ °C	6 - 7 x 10 - 5
Specific volume resistivity		cm	3 - 5 x 10 ¹⁵
Dielectric strength		KV / mm	23 - 28



uPVC PIPES DIMENSIONS

uPVC PIPES UNILON SNI - 06 - 0084 - 2002

Inch	OD	Wall Thickness (mm)					
	(mm)	S6,3	S8	S10	S12,5	S16	S20
1/2"	20	1,5					
3/4"	25	1,9	1,5				
1"	32	2,4	1,9	1,6			
1.1/4"	40	3,0	2,4	1,9	1,6	1,5	0,8
1.1/2"	50	3,7	3,0	2,4	2,0	1,6	1,0
2"	63	4,7	3,8	3,0	2,4	2,0	1,3
2.1/2"	75	5,5	4,5	3,6	2,9	2,3	1,6
3"	90	6,6	5,4	4,3	3,5	2,8	1,9
4"	110	8,2	6,6	5,3	4,2	3,4	2,2
5"	125	9,2	7,4	6,0	4,8	3,9	2,7
5"	140	10,3	8,3	6,7	5,4	4,3	3,1
6"	160	11,8	9,5	7,7	6,2	4,9	3,5
8"	200	14,7	11,9	9,6	7,7	6,2	4,9
9"	225	16,6	13,4	10,8	8,6	6,9	5,5
10"	250	18,4	14,8	11,9	9,6	7,7	6,2
10"	280	20,6	16,6	13,4	10,7	8,6	6,9
12"	315	23,2	18,7	15,0	12,1	9,7	7,7
14"	355	26,1	21,1	16,9	13,6	10,9	8,7
16"	400	29,4	23,7	19,1	15,3	12,3	
18"	450		26,7	21,5	17,2	13,8	
20"	500		29,6	23,9	19,1	15,3	
22"	560			26,7	21,4	17,2	
24"	630			30,0	24,1	19,3	
28"	710				27,2	21,8	
32"	800				30,6	24,5	
Pressure work at temp. (kg/cm ²)	0 - 25°	20	16	12	10	8	6
	25° - 35°	16	12	10	8	6	5

uPVC PIPES SEWAGE - SII 1246 - 1985

OD (mm)	Wall Thickness (mm)	
	Class A	Class B
40	1,8	3,2
50	1,8	3,2
63	1,8	3,2
75	1,8	3,2
90	1,8	3,2
110	2,2	3,2
125	2,5	3,2
160	3,2	4,0
200	3,9	4,9
250	4,9	6,2
315	6,2	7,7
355	7,0	8,7
400	7,8	9,8
500	9,8	12,3

A 004 00231



DEPARTEMEN PERINDUSTRIAN
PUSAT STANDARDISASI
LEMBAGA SERTIFIKASI PRODUK
MINISTRY OF INDUSTRY
CENTER OF STANDARDIZATION
PRODUCT CERTIFICATION BODY



SERTIFIKAT PRODUK PENGGUNAAN TANDA SNI
SNI MARKING CERTIFICATE

NOMOR : 0146/LSPro-Pusan/SNI-S/V111/2006
NUMBER

Sesuai dengan Keputusan Menteri Perindustrian dan Perdagangan No. 753/MPP/Kep/11/2002 tanggal 8 Nopember 2002 tentang Standardisasi dan Pengawasan Standar Nasional Indonesia serta berdasarkan Keputusan Menteri Perindustrian dan Perdagangan No. 818/MPP/Kep/12/2002 tanggal 27 Desember 2002 tentang Penunjukan Lembaga Sertifikasi Produk, Laboratorium Penguji dan Lembaga Inspeksi Dalam Rangka Pemberlakuan dan Pengawasan SNI Wajib, Ketua Lembaga Sertifikasi Produk Pusat Standardisasi Departemen Perindustrian memberikan Sertifikat Produk Penggunaan Tanda SNI kepada


Regarding to the Minister of Industry and Trade Regulation No. 753/MPP/Kep/11/2002 dated 8 November 2002 on Standardization and Control of Indonesian National Standard Regulation No. 818/MPP/Kep/12/2002 dated 27 December 2002 on Designation of Product Certification Bodies, Testing Laboratories and Inspection Bodies for the Implementation of Compulsory SNI, the Head of Product Certification Body Center of Standardization Ministry of Industry and Trade granting the SNI Marking Certificate to

Perusahaan Company	PT. HARAPAN WIDYATAMA PERTIWI
Alamat Address	Jl. Agung Karya V Sunter Podomoro DKI JAKARTA
Direksi/Penanggung jawab Director/Responsible Person	CHRISTIEN CHANDRA
Lokasi Pabrik Factory Location	Jl. Pangkalan Kec. Bantar Gebang JAWA BARAT
Komoditi Commodity	Sambungan
Nomor SNI SNI Number	06 - 0135 -
Tipe/Jenis Type/Category	Socket; Re
Merek Brand	UNILON
Sistem Manajemen Mutu yang digunakan Quality Management System used	SNI 19-9001


Berlaku sampai dengan **1 Agustus 2009** dan selama perusahaan yang bersangkutan memenuhi ketentuan SPPT SNI dan Penggunaan Tanda SNI serta peraturan perundang-undangan yang berlaku.
Valid until **August 1, 2009** and as long as the company complies with the provisions in the SNI Marking Certification and the Use of SNI Mark and the applicable laws and regulations.

Cert No.: 0146 / LSPro-Pusan / SNI-S / VIII / 2006 :
PVC Fittings for drinking water
valid up to August 1, 2009

A 004 00229



DEPARTEMEN PERINDUSTRIAN
PUSAT STANDARDISASI
LEMBAGA SERTIFIKASI PRODUK
MINISTRY OF INDUSTRY
CENTER OF STANDARDIZATION
PRODUCT CERTIFICATION BODY



SERTIFIKAT PRODUK PENGGUNAAN TANDA SNI
SNI MARKING CERTIFICATE

NOMOR : 0144/LSPro-Pusan/SNI-S/V111/2006
NUMBER

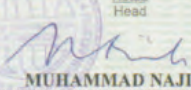
Sesuai dengan Keputusan Menteri Perindustrian dan Perdagangan No. 753/MPP/Kep/11/2002 tanggal 8 Nopember 2002 tentang Standardisasi dan Pengawasan Standar Nasional Indonesia serta berdasarkan Keputusan Menteri Perindustrian dan Perdagangan No. 818/MPP/Kep/12/2002 tanggal 27 Desember 2002 tentang Penunjukan Lembaga Sertifikasi Produk, Laboratorium Penguji dan Lembaga Inspeksi Dalam Rangka Pemberlakuan dan Pengawasan SNI Wajib, Ketua Lembaga Sertifikasi Produk Pusat Standardisasi Departemen Perindustrian memberikan Sertifikat Produk Penggunaan Tanda SNI kepada

Regarding to the Minister of Industry and Trade Regulation No. 753/MPP/Kep/11/2002 dated 8 November 2002 on Standardization and Control of Indonesian National Standard and based on the Minister of Industry and Trade Regulation No. 818/MPP/Kep/12/2002 dated 27 December 2002 on Designation of Product Certification Bodies, Testing Laboratories and Inspection Bodies for the Implementation and Control of Compulsory SNI, the Head of Product Certification Body Center of Standardization Ministry of Industry granting the SNI Marking Certificate to

Perusahaan Company	PT. HARAPAN WIDYATAMA PERTIWI
Alamat Address	Jl. Agung Karya V Blok B No. 8-9 Sunter Podomoro DKI JAKARTA
Direksi/Penanggung jawab Director/Responsible Person	CHRISTIEN CHANDRA
Lokasi Pabrik Factory Location	Jl. Pangkalan Lima, Desa Cikiwul Kec. Bantar Gebang, Bekasi JAWA BARAT
Komoditi Commodity	Pipa PVC Untuk Saluran Air Minum
Nomor SNI SNI Number	06 - 0084 - 2002
Tipe/Jenis Type/Category	S 6,3; S 8; S 10; S 12,5; S 16
Merek Brand	UNILON
Sistem Manajemen Mutu yang digunakan Quality Management System used	SNI 19-9001-2001/ ISO 9001:2000

Berlaku sampai dengan **1 Agustus 2009** dan selama perusahaan yang bersangkutan memenuhi ketentuan SPPT SNI dan Penggunaan Tanda SNI serta peraturan perundang-undangan yang berlaku.
Valid until **August 1, 2009** and as long as the company complies with the provisions in the SNI Marking Certification and the Use of SNI Mark and the applicable laws and regulations.

Dikeluarkan di Jakarta
Issued in Jakarta
Pada Tanggal 2 Agustus 2006
On the date

Ketua Head

MUHAMMAD NAJIB

Cert No.: 0144 / LSPro-Pusan / SNI-S / VIII / 2006 :
PVC Pipes : S 6,3 - S 16 for drinking water,
valid up to August 1, 2009

uPVC PIPES DIMENSIONS

uPVC PIPES UNILON JIS K 6741 - 1975

Nominal OD		Class VP		Class VU	
inch	mm	OD (mm)	Thickness (mm)	OD (mm)	Thickness (mm)
1/2"	16	22	2,7		
3/4"	20	26	2,7		
1"	25	32	3,1		
1 1/4"	30	38	3,1		
1 1/2"	40	48	3,6	48	1,8
2"	50	60	4,1	60	1,8
2 1/2"	65	76	4,1	76	2,2
3"	75	89	5,5	89	2,7
4"	100	114	6,6	114	3,1
5"	125	140	7,0	140	4,1
6"	150	165	8,9	165	5,1
8"	200	216	10,3	216	6,5
10"	250	267	12,7	267	7,8
12"	300	318	15,1	318	9,2

uPVC PIPES UNILON CLASS AW & D

Nominal OD		Class AW		Class D	
Inch	mm	OD (mm)	Thickness (mm)	OD (mm)	Thickness (mm)
1/2"	16	22	1,6		
3/4"	20	26	1,8		
1"	25	32	2,0		
1 1/4"	30	38	2,2	42	1,3
1 1/2"	40	48	2,2	48	1,3
2"	50	60	2,3	60	1,3
2 1/2"	65	76	2,6	76	1,4
3"	75	89	3,1	89	1,6
4"	100	114	4,1	114	2,0
5"	125	140	5,2	140	2,5
6"	150	165	6,2	165	2,9
8"	200	216	7,7	216	3,7
10"	250	267	8,5	267	5,0
12"	300	318	10,5	318	6,0
14"	350	370	14,0	370	8,7
16"	400	420	15,6	420	9,7
18"	450	470	16,8	470	11,5
20"	500	520	18,6	520	13,6
24"	600	630	23,5	630	14,6

JIS FITTINGS

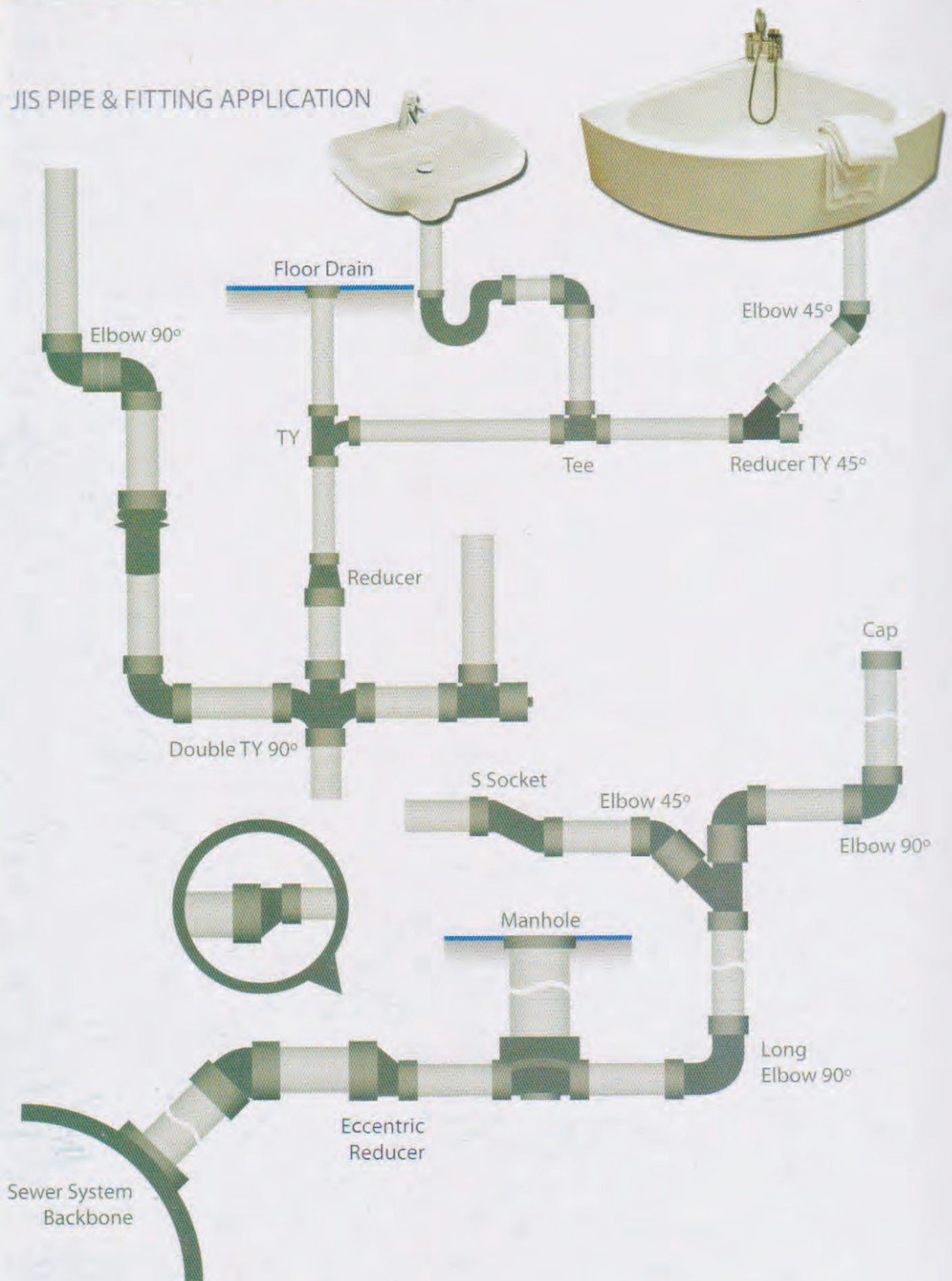
- | | | |
|-----|---------------------|----------|
| 1. | 45° Elbow | (45L) |
| 2. | 45° Y | (Y) |
| 3. | Socket | (DS) |
| 4. | Tee | (DT) |
| 5. | 90° Elbow | (DL) |
| 6. | 90° TY | (LT) |
| 7. | Reducer Socket (IN) | |
| 8. | Valve Socket | (TS. VS) |
| 9. | Flange Socket | (TS. F) |
| 10. | Long Elbow | (LL) |
| 11. | Reducer Tee | (RT) |
| 12. | Faucet Socket | (TS. WS) |

SNI FITTINGS

- | | |
|----|----------------------|
| 1. | Cap-RRJ |
| 2. | Reducer-Tee-RRJ |
| 3. | Flange socket-RRJ |
| 4. | Equal-Tee-RRJ |
| 5. | Reducer- RRJ |
| 6. | Long Bend Spigot-RRJ |
| 7. | Long Bend Double-RRJ |
| 8. | Socket-RRJ |

INSTALLATION

JIS PIPE & FITTING APPLICATION





CERTIFICATE OF REGISTRATION

PT. Harapan Widyatama Pertiwi

Factory: Jl. Pangkalan V Desa Cikiwul Kecamatan Bantar Gebang Bekasi
Jawa Barat INDONESIA

Head Office: Jl. Agung Karya V Blok B No 8-9 Sunter Podomoro
Jakarta 14340 INDONESIA

complies with the requirements of

AS/NZS ISO 9001:2000

Quality management systems – Requirements

for the following capability

The registration covers the Quality Management System for production and sales of UNILON uPVC,
HDPE pipes and fittings.

Registered by:

SAI Global Certification Services Pty Ltd (ACN 108 718 699) 266 Sussex Street Sydney NSW 2000 Australia with PT SAI Global Indonesia ('SAI Global') and subject to the SAI Global Terms and Conditions for Certification. While all due care and skill was exercised in carrying out this assessment, SAI Global accepts responsibility only for proven negligence. This certificate remains the property of SAI Global and must be returned to SAI Global upon its request.

Certificate No.: QEC21530
Issue Date: 26 August 2008

Certified Date: 17 June 2002
Expiry Date: 17 June 2011

Alex Ezrakhovich
General Manager Certification
for and on behalf of
SAI Global

Authorized Local Signatory, SAI Global



IAS-ANZ



COSTUMER SERVICES

UNILON constantly strives to provide our customers with an excellent and diverse range of services. Our sales and marketing team consist of qualified, fully trained and experienced professionals.

We are committed to provide a short-time delivery to minimize our customers inventory cost. However our services by no mean ends with accurate and on-time delivery of products.

In other cases, we provide *a specific pipe installation technique training or on-site installation services*. For PE Pipes, the joining methods are different from conventional PVC pipes. PE Pipes requires welding equipments that must be operated by trained personnel only. These equipments are available upon customer request. For customers who wish to improve their knowledge and skill regarding this welding technique, UNILON will provide brief theory introduction and on-hand practice with the actual equipments and the product itself.

UNILON provides after sales services such as lab testing and on-site inspection to monitor the quality of the pipe installation. UNILON will always continue to look for new ways to meet its commitment for costumer needs.

Distributed by:



PT. GOLDEN PIPING INDONESIA

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Kota Tangerang Selatan 15320 Banten Indonesia

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