

ERA[®]

GERMANY STANDARD

PPR PIPING SOLUTION

- HOT WATER
- COLD WATER
- CHILLED WATER
- CHEMICAL



Company Profile

Zhejiang Yonggao Plastic Industry Development Co., Ltd. Founded in 1993, is one of the largest chemical building material manufacturers in china. The headquarter of our company located in Huangyan economic development zone, taizhou city, zhejiang province.

It covers an area of 100,000 square meter, and has a number of over 1600 employees. Its total capital is about USD82 ,000,000.00

In our factory, there are more than 80 plastic extrusion line and 200 injection machines and accessories.

We mainly produce "ERA" brand pvc-u pressure and drainage pipes & fittings, insulation conduits and fitting for electrical installation, plastic valves and fitting, profile for plastic-steel door and window, PP-R cold and hot pipes and fittings, CPVC cold and hot water pipes and fittings, underground PVC-U rib pipes and DWP pipes etc. With an annual production capacity of 100,000 tons

Since the foundation of our company, we have been making an effort to fulfill the strategy of science and technology improvement and famous brand development. We passed ISO9002:2000 quality system authentication, NSF approval etc. Also, we obtained a lot of rewards, such as "zhejiang famous brand", "china famous brand" and so on.

Zhejiang Yonggao Plastic Industry Development Co., Ltd. reached in 2004 a turnover of about USD100,000,000.00, and export to almost all over the world.

Now one new industrial park is under construction, covering an area of 200,000 square meter.

We are aiming to establish a top-ranking and large-scale modern group of chemical building material till 2006



ERA[®]
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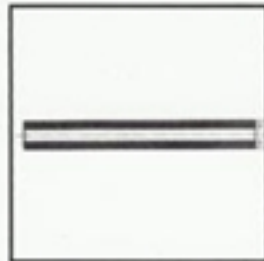


Welcome to ERA Group



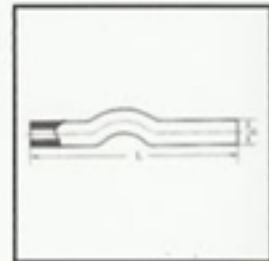


PP-R PIPES AND FITTINGS FOR COLD / HOT WATER FEEDING



ITEM NO.: PR001

PIPES				
Nominal diameter D		mm		
20	25	32	40	50
63	75	90	110	



ITEM NO.: PR002

STEP OVER BEND			
Nominal diameter D	mm		
20	25	32	
L	mm		
	395		



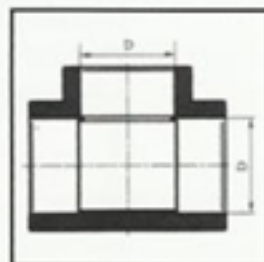
ITEM NO.: PRE01

45° ELBOW				
Nominal diameter D		mm		
20	25	32	40	50
63	75	90	110	



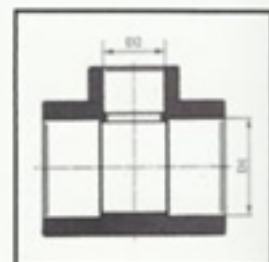
ITEM NO.: PRE02

90° ELBOW				
Nominal diameter d		mm		
20	25	32	40	50
63	75	90	110	



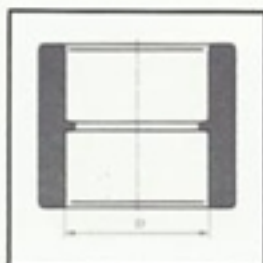
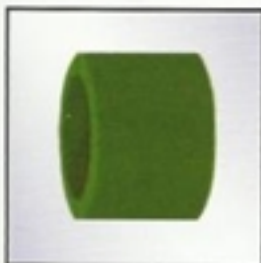
ITEM NO.: PRT01

STRAIGHT TEE				
Nominal diameter D		mm		
20	25	32	40	50
63	75	90	110	



ITEM NO.: PRT02

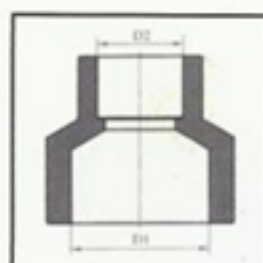
REDUCING TEE							
Nominal diameter D1 X D2							
25 x 20	32 x 20	32 x 25	40 x 20	40 x 25	40 x 32	50 x 20	
50 x 25	50 x 32	50 x 40	63 x 20	63 x 25	63 x 32	63 x 40	
63 x 50	75 x 32	75 x 40	75 x 50	75 x 63	90 x 40	90 x 50	
90 x 63	90 x 75	110 x 50	110 x 63	110 x 75	110 x 90		

ERA[®]**PP-R PIPES AND FITTINGS
FOR COLD / HOT WATER FEEDING**

ITEM NO.: PR003

SOCKET

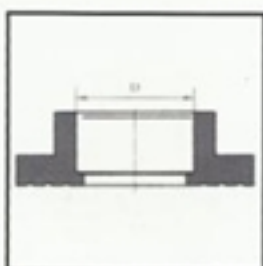
Nominal diameter D					mm
20	25	32	40	50	
63	75	90	110		



ITEM NO.: PR004

REDUCING SOCKET

Nominal diameter D1 X D2								mm
25 x 20	32 x 20	32 x 25	40 x 20	40 x 25	40 x 32	50 x 20		
50 x 25	50 x 32	50 x 40	63 x 25	63 x 32	63 x 40	63 x 50		
75 x 40	75 x 50	75 x 63	90 x 50	90 x 63	90 x 75	110 x 63		
110 x 75	110 x 90							



ITEM NO.: PR005

SHORT PIPE FOR FLANGE

Nominal diameter D			mm
40	50	63	
75	90	110	



ITEM NO.: PR006

END CAP

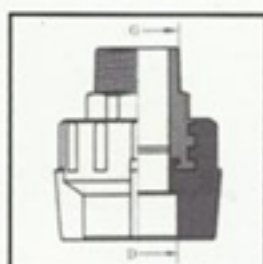
Nominal diameter D					mm
20	25	32	40	50	
63	75	90	110		



ITEM NO.: PR007

FEMALE THREAD BUSH

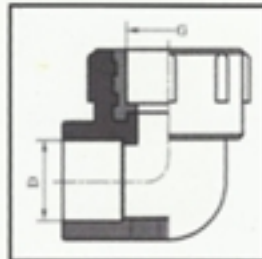
Nominal diameter D mm	G in	Nominal diameter D mm	G in
20	G 1/2"	40	G 1 1/4"
25	G 1/2"	50	G 1 1/2"
25	G 3/4"	63	G 2"
32	G 1"		



ITEM NO.: PR008

MALE THREAD BUSH

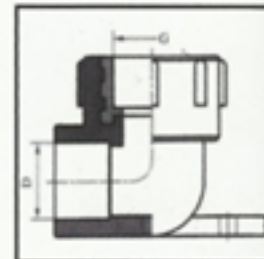
Nominal diameter D mm	G in	Nominal diameter D mm	G in
20	G 1/2"	40	G 1 1/4"
25	G 1/2"	50	G 1 1/2"
25	G 3/4"	63	G 2"
32	G 1"		

ERA[®]**PP-R PIPES AND FITTINGS
FOR COLD / HOT WATER FEEDING**

ITEM NO.: PRE03

FEMALE THREAD ELBOW

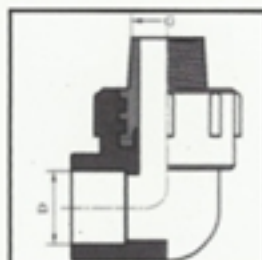
Nominal diameter D mm	G in
20	G1 / 2"
25	G1 / 2"
25	G3 / 4"
32	G1"



ITEM NO.: PRE04

FEMALE THREAD ELBOW (WITH EAR)

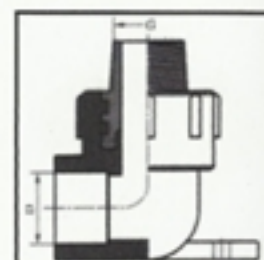
Nominal diameter D mm	G in
20	G1 / 2"
25	G1 / 2"
25	G3 / 4"



ITEM NO.: PRE05

MALE THREAD ELBOW

Nominal diameter D mm	G in
20	G1 / 2"
25	G1 / 2"
25	G3 / 4"
32	G1"



ITEM NO.: PRE06

MALE THREAD ELBOW (WITH EAR)

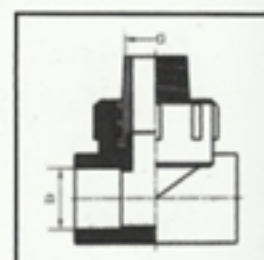
Nominal diameter D mm	G in
20	G1 / 2"
25	G1 / 2"
25	G3 / 4"



ITEM NO.: PRT03

FEMALE THREAD TEE

Nominal diameter D mm	G in
20	G1 / 2"
25	G1 / 2"
25	G3 / 4"
32	G1"



ITEM NO.: PRT06

MALE THREAD TEE

Nominal diameter D mm	G in
20	G1 / 2"
25	G1 / 2"
25	G3 / 4"
32	G1"

ERA[®]

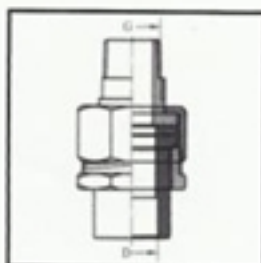
PP-R PIPES AND FITTINGS FOR COLD / HOT WATER FEEDING



ITEM NO.: PR009

COMBINING JOINT

Nominal diameter	D	mm
20	25	32



ITEM NO.: PR010

U-PIPE TRACKET

Nominal diameter	D	mm
20	25	32
40	50	63



ITEM NO.: PR011

STOP VALVE

Socket diameter mm	G in
20	1 / 2"
25	3 / 4"
32	1"
40	1 1 / 4"
50	1 1 / 2"
63	2"



ITEM NO.: PR012

FLANGE SOCKET

Nominal diameter	D	mm
	40	
	50	
	63	
	75	
	110	



ITEM NO.: PR013

HEAT-FUSED MACHINE	HEAT-FUSED JOINT
e20 - e63	e20 - e25
	e32 - e40
	e50 - e63
e75 - e110	e75 - e90
	e110

● Uses of products

Co-PP-R feed-pipes and fittings of "ERA" brand are widely used for the hot and cold water piping systems in the interior of both industrial and civilian buildings piping and draining chemical material for industry, piping system for purified drinking water, hot-water circulating system, compressing air piping, drinking production piping system and pipes for other industry and agriculture.

● Characteristics of products

- (1) Hygienic and non-poisonous: As a green building material, the product can be used for piping system for purified drinking water.
- (2) Heat-resistant: Under the specified operating pressure for long, continuous use, the piped water temperature can reach 95°C.
- (3) Corrosion-preventive and dirt-free: Users do not have to worry about pipeage blocked by accumulated dirt and yellow rusty sports on basins or bathtubs.
- (4) Heat-preserving and energy-saving: Since its coefficients of heat conductivity is only one two-hundredth of that of metal pipes, the product is highly efficient in preserving heat and saving energy when used for hot-water piping.
- (5) Light in weight and high in specific strength: The specific gravity is only one eighth of that of metal pipes while the intensity of pressure test reaches over 5 Mpa (50kg/cm²). Therefore, the product is good in toughness and strong in tenacity.
- (6) Good looking: The product is smooth in terms of its inwalls and outwalls, small in running water resistance, soft in color, and attractive in appearance.
- (7) Easy to install, and safe and reliable: Hot melt connecting method is adopted. No mantle fibre is needed. Two joints can be linked in seconds. Meanwhile, it is safe and reliable to use quality copper inserts in joining the product and metal pipes as well as water-consumption facilities.
- (8) Long service life: Under operating condition of 70°C and operating pressure of 1.0Mpa, the piping system can last 50 years. Under normal conditions, it can last above 100 years.

"ERA" Brand Atactic co-PP-R feed-pipes and fittings

In the 1990s, the company introduced from Germany the most up-to-date technology and equipment, and with the imported PP-R as raw material, was the first in the country to mass-manufacture atactic co-PP-R feed-pipe series.

● The product specifications and kind:

Co-PP-R feed-pipes of "ERA" brand contain 9 series of products: pipes e20, 25, 32, 40, 50, 63, 75, 90 and 110, and over 160 varieties of mating fittings.

● The products executive standard:

Q/YGSY04-2000 Q/YGS05-2000



PP-R PIPES AND FITTINGS FOR COLD / HOT WATER FEEDING

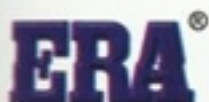
● Mainly technical indexes of products:

Items		Indexes
Density		0.9g/cm ³
Melt index (230°C, 2.16kg)		Change rate of melt index 30%
Drawed and extended strength		20Mpa
Modulus of elasticity (20°C)		800N/mm ²
Linear expansion coefficient		0.14-0.16mm/m ² k
Coefficient of heat conductivity		2.1W/m ² k
Longitudinal resilience		2%
Impact test (0°C,2h,15J) damage rate		10%
Hydraulic Test	20°C, ring stress 16Mpa, 1h	No Leakage
	95°C, ring stress 4.2Mpa, 22h	No Leakage
	95°C, ring stress 3.5Mpa 1000h	No Leakage

● Variation indexes of operating pessure, temperature and service life of PP-R pipes for long continuous use.

Temperature (°C)	Service Life (years)	Nominal Operating Pressure Rating (Mpa)					
		1.0	1.25	1.6	2.0	2.5	3.2
20	1	1.43	1.81	2.27	2.86	3.60	4.53
	5	1.35	1.70	2.14	2.69	3.39	4.26
	10	1.31	1.65	2.08	2.62	3.30	4.15
	25	1.27	1.59	2.01	2.53	3.18	4.01
	50	1.23	1.55	1.96	2.46	3.10	3.90
	100	1.20	1.51	1.91	2.40	3.02	3.80
40	1	1.04	1.30	1.64	2.07	2.60	3.28
	5	0.97	1.22	1.54	1.93	2.43	3.06
	10	0.94	1.18	1.49	1.88	2.36	2.97
	25	0.91	1.14	1.43	1.81	2.27	2.86
	50	0.88	1.11	1.39	1.76	2.21	2.78
	100	0.85	1.08	1.35	1.71	2.15	2.70
60	1	0.74	0.94	1.17	1.47	1.86	2.34
	5	0.69	0.87	1.09	1.37	1.73	2.17
	10	0.67	0.84	1.05	1.33	1.67	2.10
	25	0.64	0.80	1.01	1.28	1.61	2.02
	50	0.62	0.78	0.98	1.23	1.55	1.96
	100	0.62	0.78	0.98	1.24	1.56	1.96
70	1	0.62	0.78	0.98	1.24	1.56	1.96
	5	0.58	0.73	0.91	1.15	1.45	1.82
	10	0.56	0.70	0.88	1.11	1.40	1.76
	25	0.49	0.61	0.77	0.97	1.22	1.54
	50	0.41	0.52	0.65	0.82	1.03	1.30
	100	0.41	0.52	0.65	0.82	1.03	1.30
80	1	0.52	0.66	0.83	1.04	1.31	1.65
	5	0.48	0.61	0.76	0.96	1.21	1.52
	10	0.39	0.49	0.62	0.78	0.98	1.23
	25	0.31	0.39	0.50	0.62	0.79	0.99
	50	0.37	0.47	0.59	0.74	0.93	1.17
	100	0.37	0.47	0.59	0.74	0.93	1.17
95	1	0.37	0.47	0.59	0.74	0.93	1.17
	5	0.25	0.31	0.40	0.50	0.63	0.79
	10	0.21	0.27	0.34	0.42	0.53	0.67

Note: The above table is quoted according to DIN8077E-1996 standard.



PP-R PIPES AND FITTINGS FOR COLD / HOT WATER FEEDING

● Specification, size and franchise tolerance of PP-R pipes

Unit: mm

Average External Diameter (de)	Wall Thickness (e)							Length (L)
	Nominal Pressure (Mpa)							
	PN1.0	PN1.25	PN1.6	PN2.0	PN2.5	PN3.2		
20 +0.3 0	1.8 +0.4 0	1.9 +0.4 0	2.3 +0.5 0	2.8 +0.5 0	3.4 +0.6 0	4.1 +0.7 0	4000 ± 10	
25 +0.3 0	1.9 +0.4 0	2.3 +0.5 0	2.8 +0.5 0	3.5 +0.6 0	4.2 +0.7 0	5.1 +0.8 0		
30 +0.3 0	2.4 +0.5 0	3.0 +0.5 0	3.6 +0.6 0	4.4 +0.7 0	5.4 +0.8 0	6.5 +0.9 0		
40 +0.4 0	3.0 +0.5 0	3.7 +0.6 0	4.5 +0.7 0	5.5 +0.8 0	6.7 +0.9 0	8.1 +1.1 0		
50 +0.5 0	3.7 +0.6 0	4.6 +0.7 0	5.6 +0.8 0	6.9 +0.9 0	8.4 +1.1 0	10.1 +1.3 0		
63 +0.6 0	4.7 +0.7 0	5.8 +0.8 0	7.1 +1.0 0	8.7 +1.1 0	10.5 +1.3 0	12.7 +1.5 0		
75 +0.7 0	5.7 +0.8 0	6.9 +0.9 0	8.4 +1.1 0	10.3 +1.3 0	12.5 +1.5 0	15.1 +1.7 0		
90 +0.9 0	6.7 +0.9 0	8.2 +1.1 0	10.1 +1.3 0	12.3 +1.5 0	15.0 +1.7 0	18.1 +2.1 0		
110 +1.0 0	8.1 +1.1 0	10.0 +1.2 0	12.3 +1.5 0	15.1 +1.8 0	18.3 +2.1 0	22.1 +2.5 0		

Note: The nominal pressures commonly used are PN1.25, PN1.6, and PN2.0. Pipes of other nominal pressure ratings are to be specially ordered.

● Directions for installation:

- Hot melt connecting method is to be used to join pipes and fittings and no mantle fibres are to be directly connected to pipes or fittings. Fittings with metal inserts are to be used in connecting metal pipes and water-consumption facilities.
- Desk-type melting connectors apply to prelinking of large diameter pipeline while portable melting connectors apply to the final prelinking of small diameter pipeline as well as their systems.
- Melting construction is to be operated in strict accordance with the specified technical parameters. No pipes or fittings are to be turned round in the process of heating and socketing. Instead, they are to be inserted linearly. In normal melt connecting there should be an even melt ring on the faying surface.
- Technical parameters for welding operation:

External Diameter of pipes (mm)	Depth of weld (mm)	Time for heating (second)	Time for connecting (second)	Time for cooling down (minute)
20	14	5	4	2
25	16	7	4	2
32	17	8	6	4
40	19	12	6	4
50	21	18	6	4
63	25	24	8	6
75	27	30	10	8
90	31	40	10	8
110	37	50	15	10

Note: Time for heating should be lengthened by 50% if the temperature is below 5°C in the operating surroundings.

- After construction, pressure testing and acceptance inspection should be done before pipes are sealed and put to use.
- The detailed direction is according to "using and installing manual" of PP-R pipes and fitting which was published by our company.

● Transportation and storage:

Products should be handled carefully in the course of transportation. Products should be stored indoors and avoid being directly exposed to sunshine. They should be kept away from heat source and placed straight and flat. Pipes should not be stacked higher than 1.5m.

● Points for attention:

- To ensure engineering quality, products manufactured by this company must not be used along with those manufactured by other companies.
- Installation workers and constructors must receive technical and safety training, read the directions and construction regulations thoroughly before installation.

Characteristics

Hygiene & Health Concerns

Health is taken as a major concern during production of ERA® pipes and fittings.

- Connection of pipes does not require additives such as cement solvent, fluxes or solder.

To ensure the safety of ERA® pipes and fittings for usage relating to human contact and consumption with potable water the following are strictly adhered to:

- **KTW** - Recommendations
 - Federal Health Office, Germany
- **DVGW** - Test Certificate based on KTW recommendations for Materials in Contact with Drinking Water
- **DIN 1988 Part 2** - Drinking Water Supply Systems, Materials, Components, Appliances, Design and Installation

Fire Classification

ERA® pipes and fittings comply and are classified under the requirements of the fire classification, B2 (Normally inflammable) according to DIN 4102. In case of a fire outbreak of temperature >800°C, under ideal conditions, with sufficient oxygen, only carbon dioxide and water vapour are produced as the raw material of Polypropylene Random Co-polymer is a hydrocarbon chain. Toxic fumes or dioxin will not be emitted.

For applications where constant UV exposure is needed, ERA® UV / Solar pipes should be used. For prolong lifespan, a protective paint in Black or jacket should be used.

Sound Insulation

Compared to metallic pipes, ERA® does not need further insulation to decrease the decibel level when water flows at relatively high speeds. The reason is simply that metals transmit noises quicker and louder, whereas, plastics dampen the noises. Hence "whistling" and noises resulting from water hammer effect are largely reduced to non-existence.

UV Resistance

ERA® Products are produced with UV stabilisers. However, like all other piping systems including metals pipe works should not be left exposed under direct sunlight without insulating or protection from direct sunlight or UV radiation.

For applications where constant UV exposure is needed, ERA® UV / Solar pipes should be used. For prolong lifespan, a protective paint in Black or jacket should be used.

Advantages of Using ERA®

From the above properties of ERA® systems and application areas, compared to other conventional metal or plastic piping systems ERA® has the following advantages which makes it THE SYSTEM OF THE NEW MILLENIUM.

- Not Detrimental to Human Health
- Rust and Corrosion Free
- Rupture Free
- No Scaling
- High Resistance to Acids and Chlorides
- Noise Free At High Flow Rates
- High Pressure Tolerances and Rating
- Insulation Is Not Necessary for Interior Applications
- Light Weight
- Speed and Ease of Fusion Technology
- Extensive Savings in Time and Labour
- Drinking Water Approval

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UV Resistance

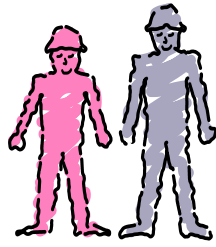
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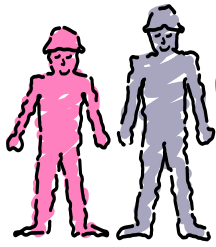
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- No Scaling
- High Resistance to Acids and Chlorides
- Noise Free At High Flow Rates
- High Pressure Tolerances and Rating
- Insulation Is Not Necessary for Interior Applications
- Light Weight
- Speed and Ease of Fusion Technology
- Extensive Savings in Time and Labour
- Drinking Water Approval



Project List of "ERA" PPR Pipe & Fittings



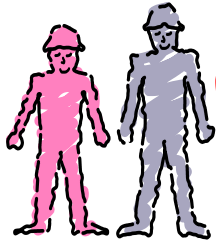
No	Name of Project	Location	Years
1	Gedung I'Trade	Wahid Hayim - Jakarta Pusat	2005
2	Tampak Siring Barat	Kelap Gading - Jakarta Pusat	2005
3	Pondok Indah Residence	Pondok Indah - Jakarta Selatan	2005
4	Citra Dua Extention	Kalideres - Jakarta Barat	2005
5	Laguna Residence	Mayjend Sungkono - Surabaya	2005
6	Pabrik Pengolahan Daging Corned	Cikarang - Jawa Barat	2005
7	Menteng Residence	Menteng - Jakarta Pusat	2005
8	Gading Pelangi Indah	Kelapa Gading - Jakarta Utara	2005
9	Apartement Rasuna Tower 18	Kuningan - Jakarta Selatan	2006
10	Hotel Grand Hyatt	Bali	2006
11	Apartement Setia Budi	Bandung	2006
12	Departemen Keuangan	Lapangan Benteng - Jakarta Pusat	2006
13	Universitas Pelita Harapan	Karawaci - Tangerang	2006
14	Sumbawa Residence	Menteng - Jakarta Pusat	2006
15	Apartement Sangri - La	K.H. Mas Mansyur - Jakarta Pusat	2006
16	Apartement Hollywood	Gatot Subroto - Jakarta Selatan	2006
17	Apartement Bellza	Permata Hijau - Jakarta Barat	2006
18	Sogo Senayan City	Asia Afrika - Jakarta Pusat	2006
19	SOS Official Hospital	Jakarta	2006
20	Pasific Plaza Hotel & Apartement	SCBD - Jakarta Selatan	2006
21	Borobudur Club House	Semarang	2006
22	Ranch Market	Pondok Indah - Jakarta Selatan	2006
23	Apaetement Paviliun Park	Karet Tengsing - Jakarta Selatan	2006
24	Marketing Office Kuningan	Kuningan - Jakarta Selatan	2006
25	Hotel Banyuwangi	Pecenongan - Jakarta Pusat	2006
26	Wisma Bank Mega	Bogor	2006
27	City Home Apartement	Kelapa Gading - Jakarta Utara	2006
28	French Walk	Kelapa Gading - Jakarta Utara	2006
29	Hotel Sahid Jaya	Sudirman - Jakarta Selatan	2006
30	Patra Residence	Jakarta	2006
31	RSUD Dr. Sardjito	Jogyakarta	2006
32	Apartement Metropolis	Surabaya	2006
33	The East	Mega kuningan - Jakarta	2006
34	Hotel Gumaya	Semarang	2007
35	Graha Santika	Semarang	2007
36	Garuda Food (Industri)	Gersik	2007
37	Plaza Adorama	Menteng - Jakarta Pusat	2007
38	Oasis Residence	Setiabudi - Jakarta Selatan	2007



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39	Empire Place	Surabaya	2007
40	Apartement Senayan City	Asia Afrika - Jakarta Pusat	2007
41	Wisma Angrek	Setiabudi - Jakarta Selatan	2007
42	Wisma Sahid Jaya	Jakarta	2007
43	Pantai Mutiara Executive House	Pantai Mutiara - Jakarta Utara	2007
44	Duta Garden Executive House	Tangerang	2007
45	Metro Sunter Executive House	Jakarta	2007
46	Apartement Rasuna Tower 19	Kuningan - Jakarta Selatan	2007
47	Hotel Bahtera	Balik Papan - Kalimantan	2007
48	Surabaya Tonw Square	Surabaya	2007
49	RSUD Sidoarjo	Surabaya	2007
50	Wisma Retreat	Gadoq - Bogor	2007
51	RSUD Dr. SARDJITO Tahap II	Yogyakarta	2007
52	Rumah Tinggal Supramu	Pattmura - Jakarta	2007
53	Rumah Sakit Ibu Anak	Kemang - Jakarta Selatan	2007
54	Rumah Tinggal Kapolri Sutanto	Jakarta	2007
55	Apartement Recerview	Bali	2007
56	Pabrik Coca - Cola	Depok	2007
57	Gedung BPD	Jogyakarta	2007
58	R. S Sahid Sahirman	Jakarta	2007
59	R. S Hoesin	Palembang	2007
60	R. S Bari	Palembang	2007
61	Aston Hotel & Apartement	Slipi - Jakarta Barat	2007
62	Grand Soho	Slipi - Jakarta Barat	2008
63	Lifestyle (Bakrie Tower)	Jakarta	2008
64	Stadion Tengarong	Kalimantan Timur	2008
65	Hotel Aston	Samarinda	2008
66	Kantor BPKP	Jogyakarta	2008
67	Stadion Bontang	Kalimantan Timur	2008
68	Universitas Bina Nusantara	Jakarta	2008
69	Pantai Trisit Residence	Jogyakarta	2008
70	Pasir Besi	Sewon Bantul - Jogyakarta	2008
71	Hotel Palangkaraya	Palangkaraya	2008
72	Renovasi Werdapura	Sanur - Bali	2008
73	Bali Kuta Residence	Kuta - Bali	2008
74	Batchning Place	Gianyar - Bali	2008
75	Tithies Batam / Harmoni	Nagoya - Batam	2008
76	Pertambangan Haju Mine	Kalimantan	2008
77	Santika Hotel	Bogor	2008
78	Hilton Hotel	Bandung	2008



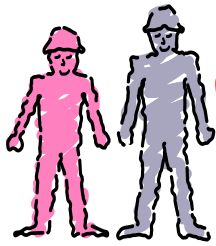
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79	Nirwana Residence	Bogor	2008
80	Hotel Aston	Bogor	2008
81	Rusunawa	Jogyakarta	2008
82	Renovasi Werdapura	Sanur - Bali	2008
83	PT. Garuda Food	Kletek - Sda	2008
84	Pertambangan Timah	Bangka	2008
85	Adorama Plaza 2	Jakarta	2008
86	Rumah Sakit Bella Medica	Jakarta	2009
87	Hotel Sahid Cikarang	Cikarang - Jawa Barat	2009
88	Rumah Sakit Mayapada	Tangerang	2009
89	Apartement Taman Sari Sudirman	Jakarta	2009
90	Apartement Urabana Karawaci	Tangerang	2009
91	Taman Sari Asih Residence	Tangerang	2009
92	Pizza Hut Karawaci	Tangerang	2009
93	Harapan Indah Residence	Bekasi	2009
94	Hotel Sahid Solo	Jawa Tengah	2009
95	Tomang Tol Office	Jakarta	2009
96	Pondok Hijau Executive House	Jakarta	2009
97	Hotel Amaris	Bandung	2009
98	Angkasa Citra Sarana	Tangerang	2009
99	Bukit Gading Executive House	Jakarta	2009
100	Jayanata Building - Jl. Mawar	Surabaya	2009
101	Hotel Imperial	Denpasar - Bali	2009
102	Rs. Kasih Ibu	Denpasar - Bali	2009
103	Villa Wolas	Seminyak - Bali	2009
104	Villa Akhasa	Seminyak - Bali	2009
105	Empire Palace	Surabaya	2009
106	Tune Hotel Kuta	Kuta - Bali	2009
107	Villa Ayung Yasmin	Sanur - Bali	2009
108	Royal Tower	Bali	2009
109	Kuta Town	Kuta - Bali	2009
110	Hotel Amaris	Banjarmasin - Kalimantan Selatan	2009
111	High Point Apartement	Surabaya	2009
112	B'Square Bandara Sepinggan	Balikpapan	2009
113	Villa Mega Mendung	Bogor	2009
114	Food Mall	Banjarmasin - Kalimantan Selatan	2010
115	Amaris Hotel Semarang	Semarang	2010
116	KWK Bontang	Kalimantan Timur	2010
117	RS. Pura Raharja Thp III	Surabaya	2010
118	Ubaya Training Center (UTC)	Trawas - Malang	2010



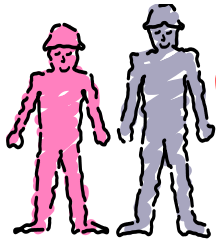
119	New Grand Park Hotel	Surabaya	2010
120	RS. DR. Soewondo Thp I	Pati	2010
121	Jasuindo	Surabaya	2010
122	RS. Kanujoso	Balikpapan	2010
122	Vihara Kalisari	Surabaya	2010
124	Kantor Gubernur Jawa Timur	Surabaya	2011
125	D' Soya Hotel	Surabaya	2011
126	RSUD Gambiran	Kediri	2011
127	DR Apartement	Surabaya	2011
128	RS. Patiwiliso	Semarang	2011
129	RS. Bethesda	Yogyakarta	2011
130	RS. DR. Soewondo Thp II	Pati	2011
131	Gedung IAIN (UIN)	Surabaya	2011
132	Gedung Training Centre IAIN (UIN)	Surabaya	2011
133	Hotel Pasar Baru Square	Balikpapan	2011
134	Mall & Condotel Pasar Baru Square	Balikpapan	2011
135	Hotel Inna Muara Padang	Padang	2011
136	Lab Teknik Elektro ITS	Surabaya	2011
137	BRI	Jayapura	2011
138	Hotel Amaris	Surabaya	2011
139	The Grove	Jakarta	2011
140	RS. Hasan Sodikin	Bandung	2011
141	RS. Paru	Bandung	2011
142	Hotel Amaris II	Bandung	2011
143	Hotel Astam Makasar	Makasar	2011
144	Hotel Sentani	Jayapura	2011
145	Rumah Indonesia Sehat	BSD	2011
146	Hotel Amaris Cirebon	Cirebon	2011
147	Ramayana Cirebon	Cirebon	2011
148	Ramayana Lampung	Bandar Lampung	2011
149	Hotel	Jakarta	2011
150	Wisma Pamelu	Jakarta	2011
151	Politeknik VI	Depok	2011
152	Office Tanah Abang C515	Jakarta	2012
153	Taman Melati Margonda	Depok	2012
154	Biru Klasifikasi Indonesia	Jakarta	2012
155	RSUD. Bekasi	BVS	2012
156	Martabe pabrik batu bara	Medan	2012
157	stadion Atlantik Mumbai		2012
158	Plaza Indonesia	Jakarta	2012



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159	Hotel Sopyan	Jakarta	2012
160	GKPB Bandung	Bandung	2012
161	Pizza Hut Bandung	Bandung	2012
162	Hotel Valero Jababeka	Bekasi	2012
163	Indofood Lampung	Lampung	2012
164	Mayora Creamer	Tangerang	2012
165	Mayora Oka	Jakarta	2012
166	Mayora Biskuit	Tangerang	2012
167	Resto Epicentrum	Jakarta	2012
168	Apartment Taman Sari Semanggi	Jakarta	2012
169	Resto Bisnin Park	Jakarta	2012
170	Sosro P Mutiara	Jakarta	2012
171	Executive House Karawaci	Tangerang	2012
172	Aqua Semarang	Semarang	2012
173	Executive House Ancol	Jakarta	2012
174	Pondok Indah Executive House	Jakarta	2012
175	Wisma Benhil	Jakarta	2012
176	Pizza Hut Lampung	Lampung	2012
177	Pizza Hut Balikpapan	Balikpapan	2012
178	Pizza Hut Kelapa Gading	Jakarta	2012
179	Pizza Hut Bogor	Bogor	2012
180	Pizza Hut Serpong	Serpong	2012
181	Mc Donald Senayan	Jakarta	2012
182	Ramayana Pusat Tanah Abang	Jakarta	2012
183	Ramayana Klender	Jakarta	2012
184	Cilandak Executive House	Jakarta	2012
185	Hotel Harmoni Tasik	Tasikmalaya	2012
186	KPPN Sumedang	Bandung / Sumedang	2012
187	RS Antam	Jakarta	2012
188	RS Syarif Hidayatulloh Ciputat	Tangerang	2012
189	UIN Ciputat Tahap I & II	Tangerang	2012
190	Hotel Juanda Surabaya	Surabaya	2012
191	Hotel Manggis	Jakarta	2012
192	Ramayana Kediri	Jawa Timur	2012
193	Villa Sentul	Bogor	2012
194	Hotel Meridian	Jakarta	2012
195	Hotel Santika Tasik	Tasikmalaya	2012
196	RS Mitra Keluarga Cibubur	Cibubur	2012



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197	Graha Segara Tj Priok	Jakarta	2012
198	Pakuwon Surabaya	Surabaya	2012
199	Hotel Aston Tanjung Pinang	Riau	2012
200	Aston Tangerang	Tangerang	2012
201	Graha Minah	Bandung	2012
202	Hotel Santika	Pontianak	2012
203	Wisma Antapani	Bandung	2012
204	Hotel Samarinda	Samarinda	2012
205	Hotel Aston	Luwuk - Sulawesi Tengah	2012
206	RS Unair Tahap 3	Surabaya	2012
207	Garuda Food	Surabaya	2012
208	Garuda Food	Pati - Jawa Tengah	2012
209	Hotel Amaris	Surabaya	2012
210	Unibraw	Malang	2012
211	RS Pura Raharja	Surabaya	2012
212	Suara Merdeka	Semarang	2012
213	Dispenda	Banjar Baru	2012
214	All Season	Bali	2012
215	Mall Jaya Pura	Jaya Pura	2012
216	Best Westen Apartemen	Semarang	2012
217	Grand Amaste	Bali	2012
218	Mension House	Surabaya	2012
219	Kali Sari House	Surabaya	2012
220	RSU Gatabiran	Kediri	2012
221	Kantor Gubernur	Surabaya	2012
222	Citadine	Bali	2012
223	Alana Apartemen	Bali	2012
224	Banadara Bali	Bali	2012
225	Amarosa Hotel	Bali	2012
226	Villa Karang Asem	Bali	2012
227	Bima Nusa Dua	Bali	2012
228	Villa Ubud	Bali	2012
229	RSUD Badung	Bali	2012
230	Perumah Griyo Mapan	Surabaya	2013 - sekarang
231	Tretes View Hotel	Tretes - Malang	2013
232	I-Doop Hotel	Lombok	2013
233	Amaris Hotel	Palembang	2013
234	RS. Paru	Madiun	2013
235	Golden City Mall	Surabaya	2013
236	RSIA MERR	Surabaya	2013

