

COMBINED COOPERATION CO.

PEX PIPES AND FITTINGS



PEX Pipes



PEX Pipes are manufactured from highest quality cross-linked polyethylene and is designed for tap water application as well as distribution pipes.

Benefits

- Certified quality
- Corrosion resistant
- Thermal memory
- Lightweight and very flexible
- Durable



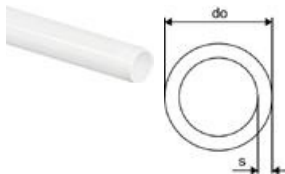
Specification

- Pipes manufactured from peroxide cross-linked polyethylene (PE-Xa) acc. EN ISO 15875
- Application class 2 - Hot water supply
- Fire classification E according to DIN EN 13501-1.
- Conduits manufactured from high density polyethylene

Application

- Tap water: The permanent operating temperature ranges from 0°C to 70°C. The short-term malfunction temperature is 95°C for a period of 100 hours in the operating life time.

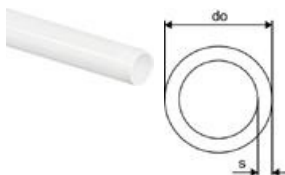
PEX Pipe PN6



	Dimension	d o s m m m m	colour -	p bar	Qty 2	Qty 1	U O M
1033417	40x3,7 50m	40 3,7	natural	6	250	50	m
1033481	50x4,6 50m	50 4,6	natural	6	250	50	m
1033502	63x5,8 50m	63 5,8	natural	6		50	m

PEX Pipe natural PN6 Q&E

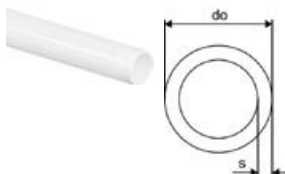
- Operating pressure 6 bar
- Coil
- Q&E rings included



	Dimension	d o s m m m m	colour -	p bar	Qty 2	Qty 1	U O M
1038351	16x1,8 200m	16 1,8	natural	6	1400	200	m
1038356	20x1,9 200m	20 1,9	natural	6	1000	200	m
1038363	25x2,3 100m	25 2,3	natural	6	600	100	m
1038365	32x2,9 50m	32 2,9	natural	6	300	50	m

PEX Pipe natural PN10

- Operating pressure 10 bar
- Coil

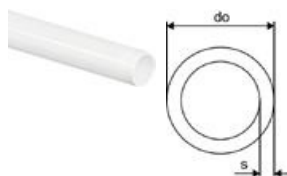


	Dimension	d o s m m m m	colour -	p bar	Qty 2	Qty 1	U O M
1022682	16x2,2 100m	16 2,2	natural	10	1100	100	m
1001201	20x2,8 50m	20 2,8	natural	10	550	50	m
1001202	25x3,5 50m	25 3,5	natural	10	400	50	m
1001203	32x4,4 50m	32 4,4	natural	10	350	50	m
1008963	40x5,5 50m	40 5,5	natural	10	350	50	m
1008964	50x6,9 50m	50 6,9	natural	10		50	m

PEX Pipes

PEX Pipe natural PN10 S

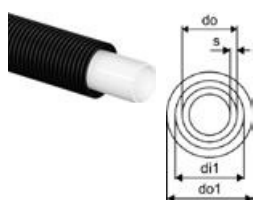
- Operating pressure 10 bar
- Bar



Dimension	d o	s	colour	p	Qty 2	Qty 1	U O M
	m	m	m	bar			
1001206 32x4,4 6m					1080	12	m
1033864 40x5,5 6m	40	5,5	natural	10		6	m
1033865 50x6,9 6m	50	6,9	natural	10		6	m
1023122 63x8,6 6m	63	8,6	natural	10		6	m

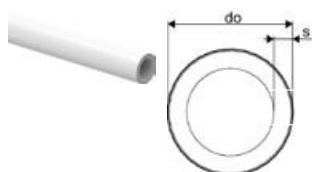
PEX Pipe natural in conduit black

- Operating pressure 10 bar
- Coil
- Pipe in conduit



Dimension	d i 1	d o	d o 1	s	colour	p	Qty 2	Qty 1	U O M
	m	m	m	m	m	bar			
1008993 16x2,2 25/20 50m							550	50	m
1008994 20x2,8 28/23 50m							400	50	m
1008995 25x3,5 34/28 50m							300	50	m

PEX pipe white opaque



Dimension	d o	s	Qty 2	Qty 1	U O M
	m	m			
1126786 16x2,2mm 100 m			1200	100	m
1126787 20x2,8mm 100 m			1000	100	m
1126788 25x3,5mm 100 m			700	100	m

PEX Pipes

PEX Pipes Features

Property	Typical Value
Material	Cross-linked Polyethylene (PEX-a)
Color	Natural/White
Density	~ 0.93–0.95 g/cm ³
Thermal Conductivity	~ 0.35 W/(m·K)
Coefficient of Linear Expansion	~ 0.15–0.20 mm/(m·K)
Operating Pressure	PN10 (10 bar at 20°C)
Continuous Operating Temp.	Up to +70°C
Short-term Max Temp.	Up to +95°C
Tensile Strength at Break	~ 23–27 MPa
Elongation at Break	> 300%
Impact Strength	Excellent, remains flexible at low temperatures
Flexural Modulus	~ 550 MPa
Thermal Memory	Yes (shrink-back effect for Q&E fittings)
Minimum Bending Radius	Typically $\geq 5 \times$ pipe outer diameter (OD)
Expected Service Life	Up to 50 years under design conditions
Certification & Standards	ISO 15875, DIN 16892/16893, DVGW, WRAS, KIWA (region-specific)

PEX Pipes

PEX Pipe Product Benefits

Resistance to Chemical and Electrochemical Corrosion

PEX Pipe Natural PN10 is designed for outstanding durability and reliability thanks to its excellent resistance to chemical and electrochemical corrosion. Unlike traditional metal piping, the cross-linked polyethylene (PEX-a) material does not rust, scale, or corrode when exposed to aggressive water qualities. This ensures that the system remains clean and safe for potable water while maintaining structural integrity for decades.

Superior Abrasion Resistance

The robust yet flexible structure of PEX Pipe provides high resistance to abrasion from both internal flow and external handling during installation. The smooth internal surface remains intact even under turbulent flow conditions, maintaining full flow capacity, minimizing maintenance needs, and ensuring long-term system efficiency.

Low Head Loss

The pipe's smooth interior significantly reduces friction losses, resulting in lower head loss compared to traditional metal piping. This allows water to flow more freely, maintaining steady system pressure and helping pump systems operate more efficiently, which can lead to energy savings and lower operational costs.

Low Thermal Conductivity

PEX Pipe's low thermal conductivity provides natural insulation, reducing heat losses in hot water supply lines and minimizing heat gains in cold water lines. This improves overall energy efficiency, helps maintain desired water temperatures, and can reduce heating or cooling costs for building owners.

Low Noise Performance

Thanks to its flexible material and smooth bore, the PEX Pipe effectively reduces water hammer and flow noise compared to rigid piping systems. This contributes to quieter plumbing installations, which is particularly beneficial in residential and commercial buildings where low operational noise is important.

Excellent Workability

PEX Pipe Natural PN10 is lightweight, highly flexible, and easy to handle, allowing for fast and efficient installation. Its flexibility makes it possible to route the pipe around obstacles with minimal fittings, reducing the number of potential leak points. The pipe is compatible with Quick & Easy (Q&E) fitting technology, which enables secure connections with fewer tools and faster assembly.

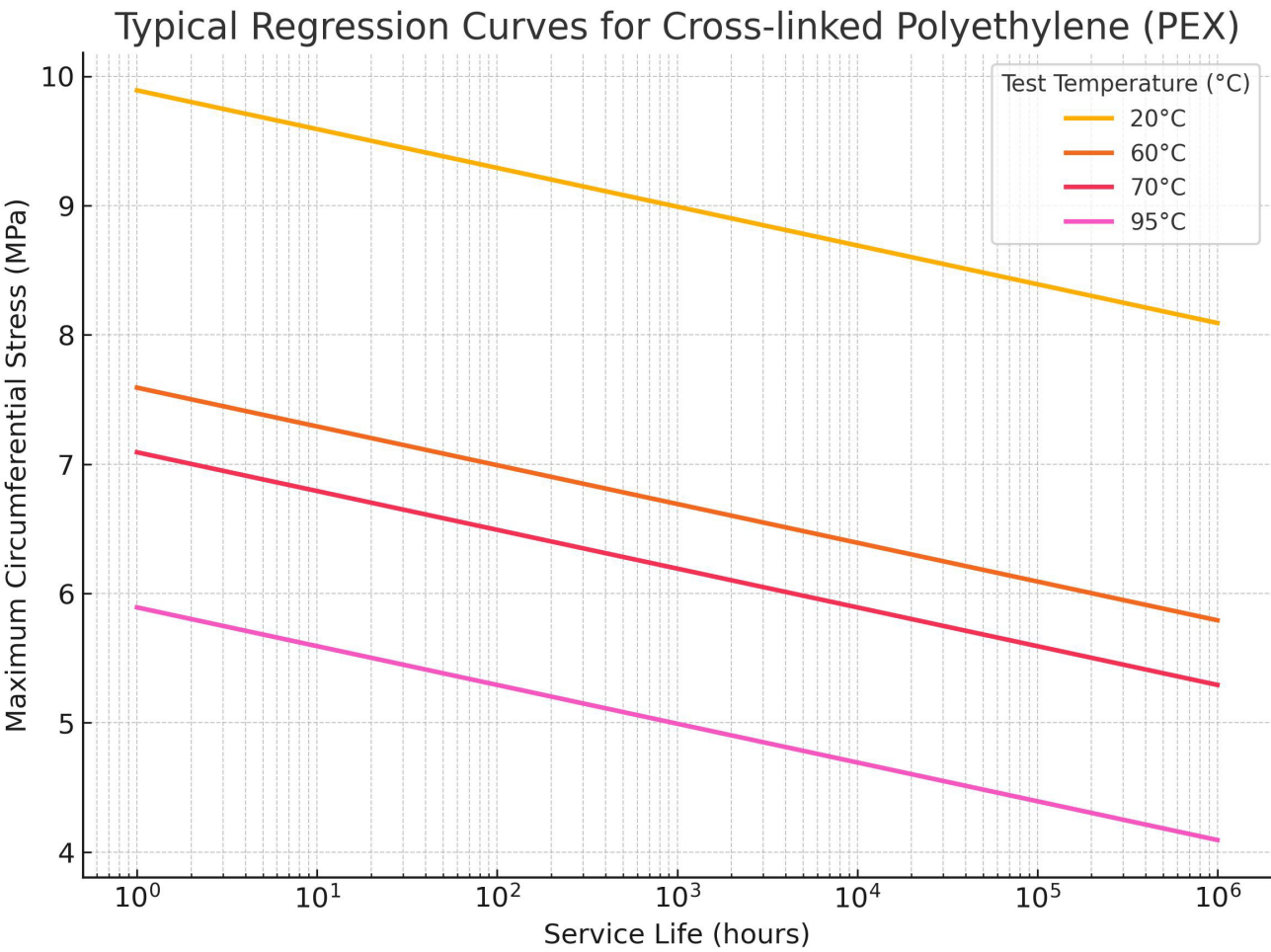
Long Service Life

Manufactured from high-quality cross-linked polyethylene, PEX Pipe offers an expected service life of up to 50 years under standard operating conditions. Its durable structure retains its performance characteristics over time, ensuring reliable operation and lower life-cycle costs for building owners and contractors.

Non-Toxic and Safe for Potable Water

PEX Pipe Natural PN10 is certified safe for use in drinking water systems. The pipe material is non-toxic, does not release harmful substances, and is taste-neutral, preserving the purity and quality of the water supply throughout its lifespan.

PEX Pipes



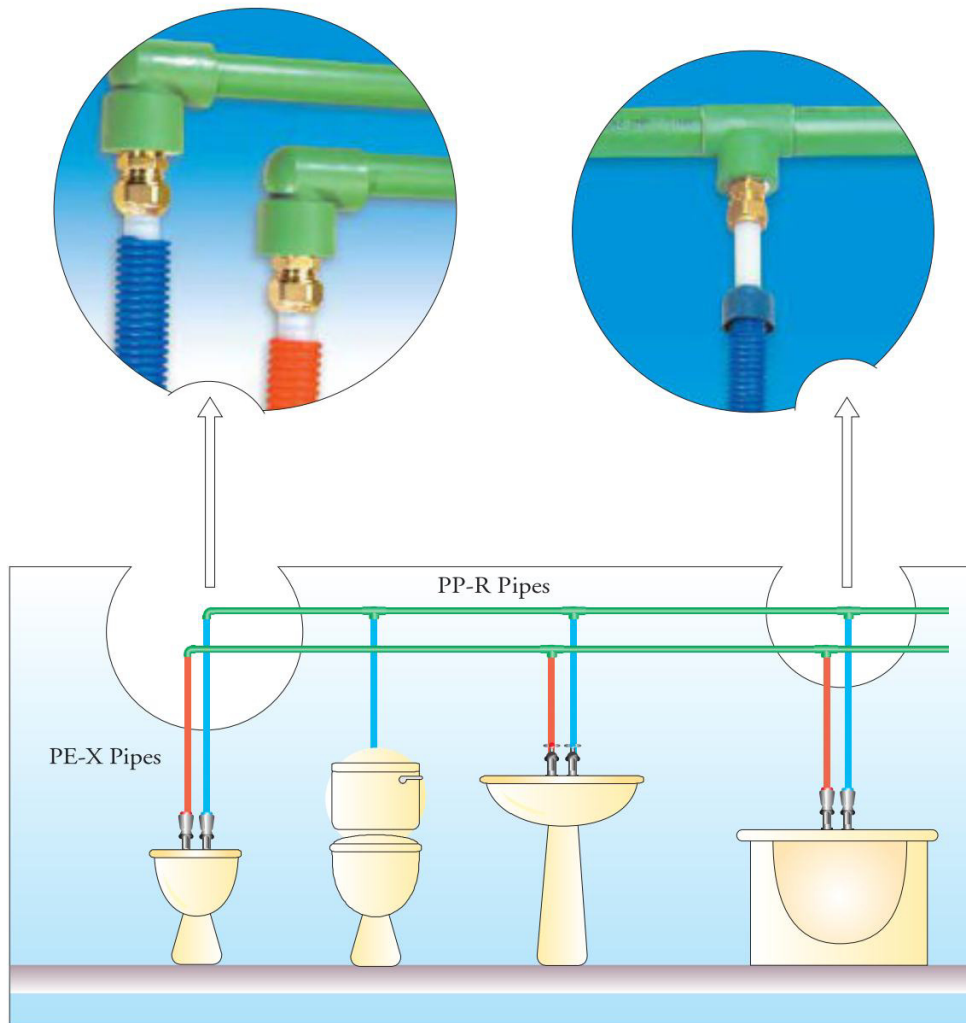
Compression Fittings

PEX Pipes – PPR Header System:

In this system, manifolds are replaced by PPR headers installed above the false ceiling. The sanitary fixtures are supplied with hot and cold water through PEX pipes laid inside corrugated polyethylene conduits connected directly to the header.

This system combines the advantages of both the PPR system and the PEX system, by maintaining the pliability and easy replacement of PEX pipes along with the outstanding performance and characteristics of PPR pipes.

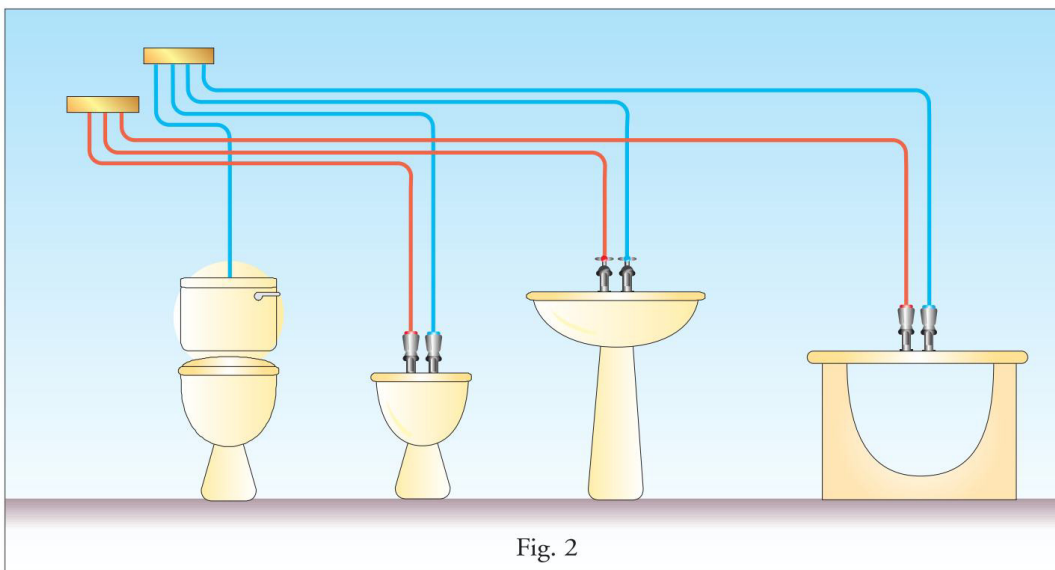
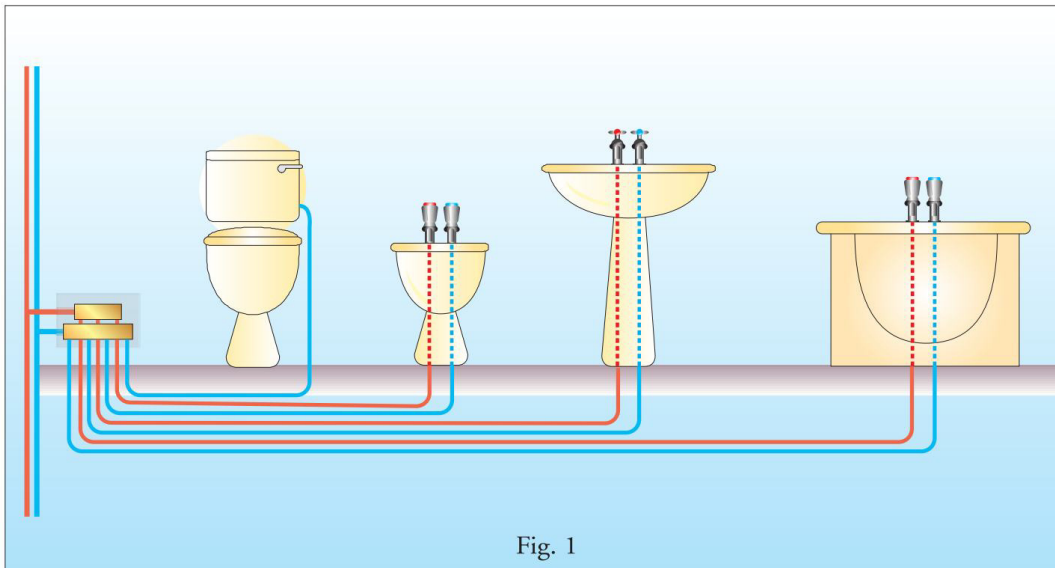
The connection between the PEX pipes and PPR header is achieved by using brass Male Threaded Adapters on the PEX pipes, connected to either Female Threaded PPR Tee or Female Threaded PPR Elbow on the PPR header, as demonstrated in the following figures.



Compression Fittings

Pipe-In-Pipe Systems Using Manifolds:

This system has been inspired from the parallel electricity distribution systems, as each tap is supplied with two pipes, one for hot and the other for cold water directly from manifolds. The hot and cold water manifolds are installed in a cabinet embedded into the wall (Fig. 1), or directly fixed on the wall above the false ceiling (Fig. 2). The hot and cold water manifolds should be selected with number of outlets equal to the number of hot and cold water taps involved in each zone respectively. The size of the manifold should be suitable for the required flow rate in each zone.



Compression Fittings

Pipe-In-Pipe Systems Using Manifolds:

The PE-X pipes are installed inside corrugated sleeves with suitable diameter (Fig. 3), therefore in case of perforation or leakage of the pipe due to accidental causes, it is possible to replace the damaged pipe simply by pulling it out of the conduit and installing a new pipe instead quickly, without damaging the floors or walls. This simple replacement is not possible with other traditional iron or copper pipe installations.

The location of the manifolds should be selected in a suitable central position in relation to the various taps connected, so as to guarantee equal pipe lengths as much as possible. Long runs should be avoided in order to reduce pressure and heat losses.

Connecting the pipe to the manifold is carried out using suitable compression adapter with size suitable to the pipe dimensions, while the connections to the tap is performed using sanitary elbow connections installed inside the plastic box (Fig. 4). It is necessary to cut the pipe precisely and perpendicularly to its axis by using a proper pipe cutter with sharp edges.



(Fig. 4)



(Fig. 3)

Compression Fittings

Compression Fittings Details

Pex Pipe



Dia.
16 x 2.2
20 x 2.8
25 x 3.5

Plain Female Elbow



Dia.
16mm x 1/2"
20mm x 3/4"

Plain Female Elbow



Dia.
16mm x 1/2"
16mm x 3/4"
20mm x 1/2"
20mm x 3/4"

Plain Female Elbow



Dia.
16mm x 16mm
20mm x 20mm

Coupling



Dia.
16mm x 16mm
20mm x 20mm
25mm x 25mm

Compression Fittings

Compression Fittings Details

Male Adaptor



Dia.
16mm x 1/2"
16mm x 3/4"
20mm x 1/2"
20mm x 3/4"

Male Elbow



Dia.
16mm x 1/2"
20mm x 3/4"

Equal Tee



Dia.
16mm x 16mm X 16mm
20mm x 20mm x 20mm

Female Threaded Tee



Dia.
16mm x 1/2" x 16mm
20mm x 1/2" x 20mm

Adaptor for Manifold



Dia.
16mm x 1/2"

Compression Fittings

Compression Fittings Details

Ball Valve



Dia.
1/2"
3/4"
1"

Manifold



Dia.
1" x 2 way
1" x 3 way
1" x 4 way

Female Endcap



Dia.
1/2"
1"

PVC Box for Wall Mounting



Dia.
16mm



Compression Fittings Manifold Installation

Quick and Easy Fittings

Quick and Easy Fitting Details

Ball Valve



Dia.
1/2"
3/4"
1"

Smart Term box, empty Q&E



Dia.
For 16mm pipe

Aqua Tap Elbow for Term Box



Dia.
16 Rp 1/2

Evolution Ring Red/Blue Q&E



Dia.
16mm

Male Adaptor Q&E



Dia.
16 R 1/2

Quick and Easy Fittings

Quick and Easy Fitting Details

Female Adaptor Q&E



Dia.
1/2"
3/4"
1"

Manifold Male Female Thread Q&E

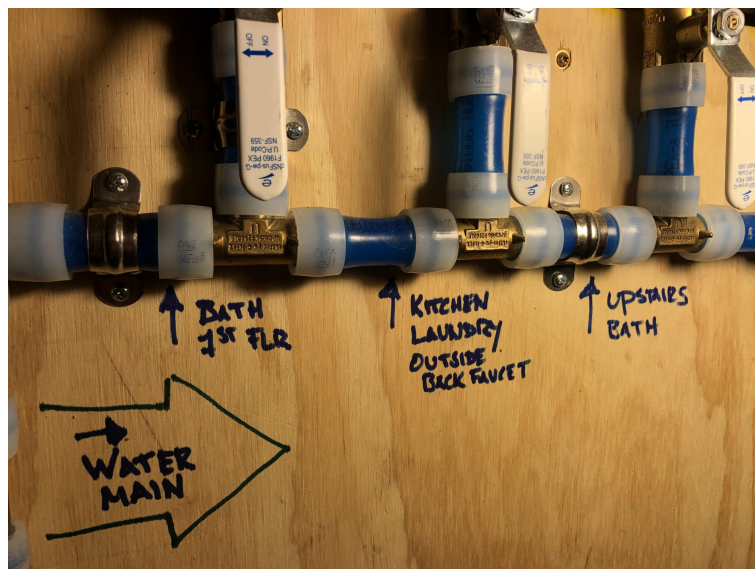


Dia.
16mm - 2 outlets
16mm - 3 outlets
16mm - 4 outlets

End Cap for Manifold



Dia.
3/4" Female



Quick and Easy Fittings

Expanding

Q&E expansion tool M18 VLD PEX



Item no.	Dimension	L mm	W mm	H mm	W kg	stroke mm	Qty 2	Qty 1	UOM
1085099	40-75	700	195	535	15	56		1	pce

Q&E expansion head VLD



Item no.	Dimension	d mm	s mm	p bar	stroke mm	Qty 2	Qty 1	UOM
1085095	40x3,7/5,5	40	3,7/5,5	6+10	56		1	pce
1085096	50x4,6/6,9	50	4,6/6,9	6+10	56		1	pce
1085097	63x5,8/8,6	63	5,8/8,6	6+10	56		1	pce
1085098	75x6,8/10,3	75	6,8/10,3	6+10	56		1	pce

Q&E expansion tool battery M18 PEX



Item no.	Dimension	L mm	W mm	H mm	W kg	Qty 2	Qty 1	UOM
1085100	5,0Ah	200	160	110	0,903		1	pce

Q&E expansion tool charger M12/M18 PEX



Item no.	Dimension	L mm	W mm	H mm	W kg	OV V	Qty 2	Qty 1	UOM
1085101	220-240V/50-60Hz	200	160	110	0,812	230		1	pce

Q&E graphite paste



Item no.	Dimension	L mm	W mm	H mm	W kg	Weight kg	Qty 2	Qty 1	UOM
1005017	100g	175	55	30	0,103	0,10		1	pce



List of Projects Completed

Country: Kuwait

Project Name	Type
Chamber of Commerce	Office Building
Public Institution for Social Security	Government Building & Car Park
Crowne Plaza Hotel	Hotel
Holiday Inn Extension, Salmiya	Hotel
Crystal Tower	Office Building
Bayan Palace Renovation	Govt. Offices, VVIP Guest, Conference Centre
Kuwait Int'l Airport (Admin Bldg.)	New Administration Building
Public Institution for Social Security	Government Building & Car Park
Kuwait Touristic Enterprise	Office Building
Marine Environment Authority	Office Building
Kuwait Oil Company (KOC)	Hospital
Deaf & Dumb Hospital	Hospital
Kidney Dialysis Centre	Clinic
Hammad Al Sagar Health Centre	Clinic
Al Ahli Bank of Kuwait	Bank, Offices
Savings & Credit Bank	Bank, Offices
Fawzie School	School
Embassy of India	Embassy Building & Residence
Embassy of Islamic Republic of Iran	Embassy Building & Residence
Embassy of Turkey	Embassy Building & Residence
Radisson SAS Hotel	Hotel
Safir Bastaki Hotel	Hotel
Holiday Inn, Downtown	Hotel
Ramada Hotel	Hotel
New Mercedes Car Showroom	Car Showroom & Offices
GMC Car Showroom	Car Showroom & Offices
New Volvo Showroom	Car Showroom & Offices
Salhiya Commercial Complex - Renovations	Offices & Shopping Complex
Hamra Mall	Offices & Shopping Complex
Wafra Mall	Offices & Shopping Complex
Sulaibikhat Retail Complex	Offices & Shopping Complex
Al Usaimi Tower	Office Building
Al Hamood Tower	Office Building
Arec Tower	Office Building
Bader Al Mulla Head Office	Office Building
City Tower	Office Building
Munzer Tower	Office Building
United Nations Head Quarters (Kuwait)	Office Building
Al Ghunaim Office Tower	Office Building
Mishaal Tower	Office Building
Basma 1 Complex	Residential Building
Basma 2 Complex	Residential Building
Zeina Tower	Residential Building
Rasha Tower	Residential Building
Yasmine Tower	Residential Building
Sheikha Tunian Alghanim Villa Complex	Residential Villas
Marzouk Villa Complex	Residential Villas
Mustafa Al Sultan Villas (21 Nos.)	Residential Villas
Sultan Chalets (40 Nos.)	Residential Chalets

Notes

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