



PVC
PIPES CATALOGUE
U.PVC & C.PVC



Al-Watania Plastics



بلاستيك الوطنية



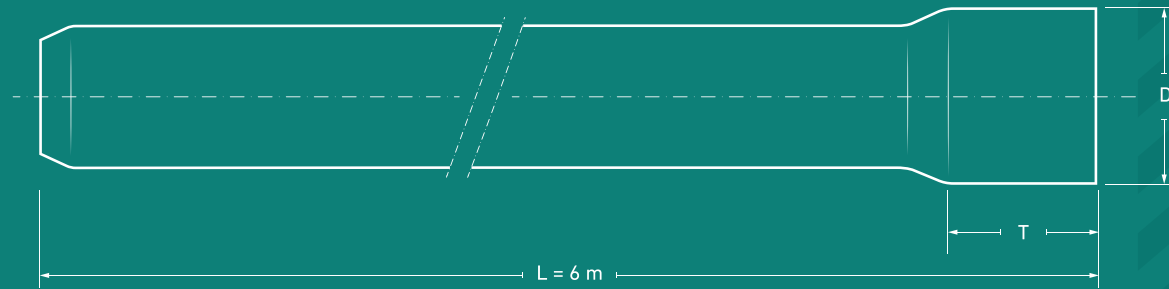
بلاستيك الوطنية
Al-Watania Plastics

Electrical Plastic Tubing (EPT) and Conduit (EPC - 40 and EPD - 80) NEMA STANDARD

المواصفات القياسية الأمريكية (نيمما)



V



Technical Properties For NEMA

Material Properties	
Material	Polyvinyl Chlorid (PVC)

Material Properties	
Specific Gravity	1.42 gm/ cm ³
Flammability	Self Extinguishing
Water Absorption	< 4mg /Cm ²

Material Properties	
ZOD Impact Strength	4.0 ft lb/In Notch
Tensile Strength	7500 p.s.i.
Flexural Strength	13500 p.s.i.
Modulus of Elasticity	5.0 X 10 ⁵ p.s.i.
Flattening	No Splitting

Material Properties	
Vicat Softening Point 5KG	> 80 C
Thermal Conductivity	0.13 k Cal / m.h. C
CO-Efficient of linear	5.0 X 10 ⁻⁵ / C
Expansion	-
Specifi Heat	0.25 Cal / C

Material Properties	
Dielectric Strength	> 40 kv /mm
Surface Resistivity	> 10 chm
Volume Resistivity	> 10 chm.cm

Rigid PVC Utilites Duct for Underground Installation Dimensions Based on NEMA TC6

Nominal Size Inch	Average Outside Diameter mm	PVC - Type EB		PVC - Type DB	
		Wall Thickness (Min)	Nominal Weight kg / m	Wall Thickness (Min)	Nominal Weight kg / m
2	60.32	1.52	0.463	1.52	0.465
3	88.90	1.55	0.702	2.34	1.00
4	114.30	2.08	1.17	3.07	1.65
6	168.28	3.18	2.53	4.62	3.57

Rigid PVC Extra Strength Utilites Duct for Underground Installation Dimensions Based on NEMA TC8

Nominal Size Inch	Average Outside Diameter mm	PVC - Type EB		PVC - Type DB	
		Wall Thickness (Min)	Nominal Weight kg / m	Wall Thickness (Min)	Nominal Weight kg / m
1	33.40	-	-	1.52	0.251
1½	48.26	-	-	1.52	0.369
2	60.32	1.52	0.485	1.96	0.576
3	88.90	1.93	0.847	3.00	1.25
4	114.30	2.54	1.30	3.91	2.06
6	168.28	3.86	3.02	5.77	4.42



Al-Watania Plastics Rigid PVC Electrical Plastic Tubing (EPT) & Conduit (EPC - 40 and EPC - 80)
NEMA TC- 6 and ASTM F512 Dimension PVC Type EB 20

Nominal	Outside		EPT - A - PVC		EPC - 40 - PVC		EPC - 80 - PVC	
Pipe Size	Dia		W/Thick	N.Weight	W/T	N.Weight	W/T	N.Weight
Inch	Inch	mm	mm	Kgs/M	mm	Kgs/M	mm	Kgs/M
½	0.840	21.340	1.52	0.155	2.77	0.248	3.73	0.309
¾	1.050	26.670	1.52	0.197	2.87	0.329	3.91	0.418
1	1.315	33.400	1.52	0.250	3.38	0.483	4.55	0.614
1¼	1.660	42.160	1.78	0.365	3.56	0.652	4.85	0.850
1½	1.900	48.260	2.03	0.468	3.68	0.779	5.08	1.030
2	2.376	60.320	2.54	0.717	3.91	1.040	5.54	1.430
2½	2.876	73.020	2.79	0.952	5.16	1.650	7.01	2.180
3	3.502	88.900	3.18	1.310	5.49	2.160	7.62	2.900
4	4.503	114.30	3.81	2.000	6.02	3.070	8.56	4.260
5	5.567	141.30	-	-	6.55	4.170	9.52	5.910
6	6.629	168.28	-	-	7.11	5.410	10.97	8.130
8	8.631	219.08	-	-	8.18	8.143	12.70	12.40



- EPT - A - PVC Electrical Plastic Tubing for encasement in concrete.
- EPC 40 (Sch 80) Electrical Plastic Conduit for normal duty.
- EPC 80 (Sch 80) Electrical Plastic Conduit for heavy duty.

NEWA
ELECTRICAL PLASTIC CONDUIT



Quality Control Testing

Al-Watania PVC Factory is equipped with a testing laboratory having a fully trained staff for evaluation of raw materials and finished pipes.

In order to maintain uniform quality level, all our routine control tests are carried out as per SAS, and DIN Standards.



إختبارات الجودة

لقد زود مصنع بلاستيك الوطنية بمختبرات على أعلى المستويات الفنية تحت إشراف مجموعة من المختصين من ذوي الخبرة ليؤكدوا أفضل مستويات الجودة بدءاً من المواد الأولية وانتهاءً بالأنابيب الجاهزة للاستعمال .

إن هذه المجموعة تعمل وبكل كفاءة لتبقى أنابيب الوطنية بجودتها المميزة و المطابقة بمواصفاتها لنظام المواصفات السعودية المتفق مع نظام المواصفات الألماني .



APPENDIX TO CERTIFICATE OF REGISTRATION

Al Watania Plastics

This appendix identifies the locations covered by the management system of:

Al Watania Plastics

This appendix is linked to the Main Certificate # QMS 180125-01 and cannot be shown nor reproduced without it.

Al Watania Plastics

Block No. 2016, M. 41, 2nd Industrial City, Riyadh, Kingdom of Saudi Arabia

Manufacture of Disposable Plastic Products by Thermo Forming and Injection Molding Methods

CERTIFICATE OF REGISTRATION

Al Watania Plastics

This is to certify that the management system of:

Al Watania Plastics

Main City: New Strategy Industrial Zone, Street 202, Post Box- 10164, Riyadh - 11483, Kingdom of Saudi Arabia

See scope for additional sites and additional site types.

has been registered by Intertek as conforming to the requirements of:

ISO 9001:2015

The management system is applicable to:

Manufacture of Plastic Products including PVC Pipes, PPR Pipes, Flexible Packaging, Blow Film, Cap Irrigation Tape for Extension, Injection Molding, Blow Molding, and Thermo Forming Methods

Calin Midekness
President, Business Assurance
Intertek Certification Limited, 5th Floor,
P.O. Box 190, Victoria Park, Victoria Road, London E8 3EG, United Kingdom

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AL WATANIA CERTIFICATES

CERTIFICATE
No. 9660262

This is to certify the Food Safety Management System of:

AL WATANIA PLASTICS
Block No. 2016, Industrial Zone, P.O. Box: 10954
Riyadh - 11483, Saudi Arabia

has been assessed and found to be in compliance with the Standard:

ISO 22000:2005

applicable to:

Manufacture of Plastic products for food packaging applications including Flexible Packaging, Blow Film, Injection Molding & Thermo-forming methods.

The certificate has been issued under no. **9660262** for the registration period from 15 November 2017 to 14 November 2020

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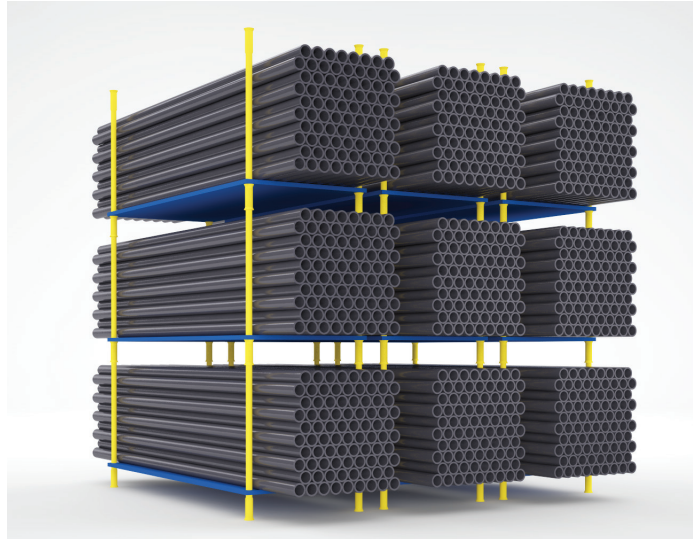
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التحميل و التخزين

مواسير الوطنية بي في سي ، يجب نقلها وتحميلها وتنزيلها بكل عناية وإهتمام لتجنب حدوث أية أضرار ميكانيكية أثناء ذلك ، ويجب تكديسها على شكل طبقات وبحيث تكون المواسير بعكس بعضها وكما هو موضح بالصور ولا يجب رصها بكميات كبيرة خاصة عند درجات حرارة مرتفعة حتى لا يؤدي ذلك الى اية إنبعاجات أو تلف فى الوصلات .
وفي حال تخزينها في مستودعات ولمدة طويلة يجب وضعها على أرضية مستقيمة أو عوارض أو دعائم مستقيمة لا يقل عرضها عن 75 ملم وأن لا يزيد المسافات بين الدعائم عن متر واحد ويجب أيضاً أن لا يزيد ارتفاع الرصة عن 7 طبقات أو 1,75 متر أيها أقل ، وفي حال رص أصناف مختلفة يجب أن تكون الاصناف من النوع الواحد فى نفس الصف و الأصناف ذات السماكة الأعلى فى الأسفل .

Handling & Storage

U-PVC Should be handled with care to avoid mechanical damage before installation. pipes should not be stacked in large pipes especially as under warm temperature condition the bottom pipes may distort, thus giving rise to difficulty in pipe alignment and joining at sites.

Socketed pipes should be stacked in layers with sockets placed at alternate ends of the stack and with sockets protruding so as to avoid lop - sided stacks and the imparting of a permanent set to the pipes.

For long term storage, the pipes should be stored either on flat level floors or pipe racks which provide continuous support. If this is not possible supports of at least 75mm bearing width at spacing not greater than 1 meter centres should be placed beneath the pipes.

In such racks the pipes may be stored not more than seven layers high or max 1.75 meters whichever is lower if different classes of pipes are kept in the same rack then the thickest classes must always be at the bottom.

التخزين في الموقع

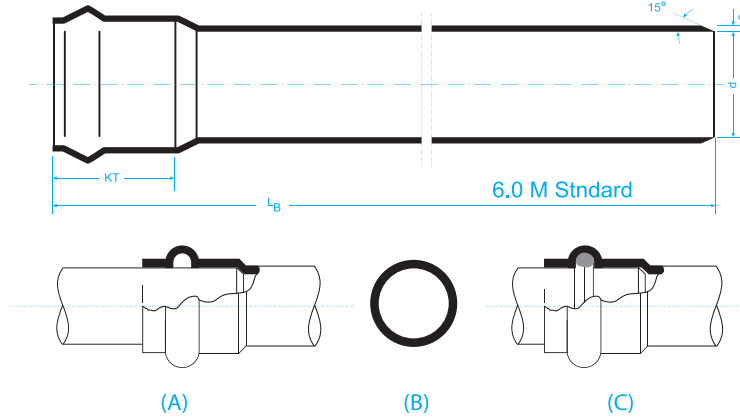
يجب الاهتمام في تخزين المواسير فى مواقع العمل والتنفيذ بحيث يتم وضع المواسير على أرضية مستقيمة خالية من الأحجار ولا يجب أن يزيد تكديسها عن ثلاث طبقات ويجب ان تكون المواسير في جميع الأحوال محمية من أشعة الشمس المباشرة ومن درجات الحرارة العالية خاصة في فصل الصيف .

Field Storage

For temporary storage in the field / site where racks are not provided, care should be taken that the ground is level and free from loose stones.

Pipes stored in the field should not exceed three layers and should be either stored in the shade or covered to prevent excess heating under direct sunlight when the temperature of dark colored UPVC pipes can reach 60oC to 70oC in summer.

uPVC Pipe with wallthickened socket joint (Rubber Joint)
of unplasticized Poly vinyl chloride (uPVC) .



- يجب تأكد من أن نهاية الانبوبة والوصله خاليان من الغبار ، وجافة .
- دخل الأنبوبة في الوصله بدون الحلقة المطاطية ثم ضع علامة على الأنبوب عند إدخاله بالكامل.
- ثم ضع الحلقة المطاطية في فتحة التجويف
- يجب ان تكون نهاية الماسورة مشطوفة بحيث يمكنها الدخول في نهاية الماسورة الاخرى بسهولة
- ادخل الأنبوب في الجلبة إلى العلامة التي تم إجراؤها مسبقًا.

- Ensure that the spigot and socket are free from dust, and as dry as possible .
- Insert pipe into the socket without seal ring place and mark pipe when it fully inserted.
- Place seal in groove of socket ensuring that seal is correct way round .
- Must be the end of the pipe chamfered , so be viable to enter into the other end of the pipe easily.
- Push the pipe firmly into the socket up to the insertion mark previously made .

طرق التركيب

تتوفر أنابيب الوطنية بأطوال قياسية بطول 6 أمتار. ويمكن توفيرها بأطوال أخرى حسب طلب العميل .

توصيل الأنابيب :

يتم توصيل أنابيب الوطنية بطرق عديدة:

- 1 - انبواب ذات نهاية عادية (PE) مع وصلات منفصلة.
- 2 - انبوبة ذات الحلقة المطاطية (RR)
- 3 - انبواب ذات وصلة غراء (SC)

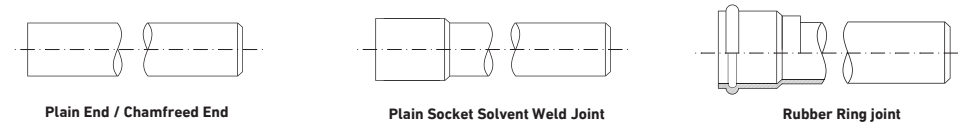
يمكن توفير الأنابيب مع طرفي النهايات مشنفرة (DC) بأطوال 6 أمتار أو أطول مختلفة ، حسب الطلب .

Installation

Al-Watania pipes are available in nominal standard lengths of 6 meters. Other lengths can be supplied by arrangement customer requiremnt.

Pipe Joint- Al-Watania pipes are supplied with various joint system.

Plain Ended (PE) pipe for use with separate Couplings, Rubber Ring, Solvent (Adhesive) Weld or Special Fittings. Pipe can also be supplied with both ends chamfered (DC) if requested, in lengths of 6 metres ather lengths can be supplied.



توصيل الحلقات المطاطية (RRJ) :

يتم تصنيع الانابيب بنهاية ذات تجويف داخلي لوضع حلقة مطاطية مانعة للتسرب.

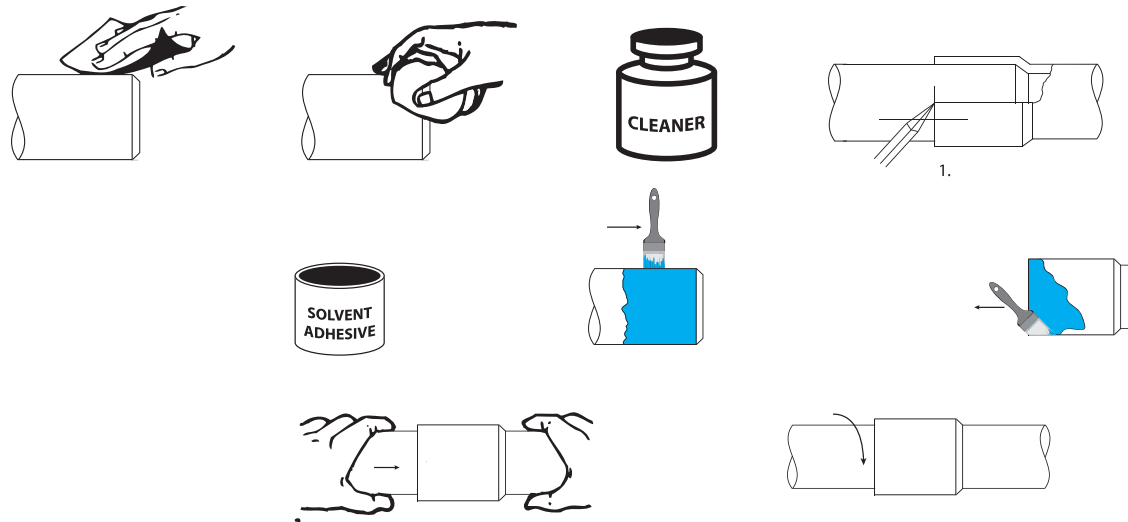
Rubber ring joints (R/J).

Pipes are supplied with integral grooved socket at one end incorporating elastomeric sealing ring.

Pipes up to 110 mm may be jointed easily with solvent adhesives.

Larger sizes require more special techniques and require tow men to make such joints.

- 1- Jointing Procedure. Mark depth of entry of the pipe into the socket and alignment mark.
- 2- Make small chamfer on the edge of the pipe and with medium file.
- 3- Roughen the outside of the pipe and the inside of the socket using sand paper or emery cloth upto the entry mark.
- 4- Clean both surfaces and remove all dust, grease and swaerf using a dry clean cloth and cleaner.
- 5- Stir adhesive thoroughly.
- 6- Apply adhesive without delay after cleaning , using a flat clean brush .



- 7- Immediately insert the pipe into the socket up to the entry mark, align pipe and socket. Hold in position for a few seconds, then wipe off excess cement (DO NOT TWIST).

يمكن توصيل المواسير حتى 110 مم بسهولة باستخدام المواد اللاصقة المذيبة.

تتطلب الأحجام الأكبر تقنيات أكثر خصوصية وتتطلب من الفنيين سحب هذه الوصلات .

- 1 - إجراءات الربط: ضع علامة على دخول الأنبوب في الجلبة وعلامة المحاذاة.
- 2 - جعل الشطب الصغير على حافة الأنبوب وفي الوسط تماماً .
- 3- قم بتخشين الجزء الخارجي من الأنبوب والجزء الداخلي من المقبس باستخدام ورق الصنفرة حتى علامة الإدخال.
- 4- نظف السطح الخارجي ، و قم بإزالة جميع الأتربة والشحوم باستخدام قطعة قماش نظيفة.
5. تحرك المادة اللاصقة جيداً.
- 6- ضع المادة اللاصقة دون تأخير بعد التنظيف باستخدام فرشاة نظيفة.

- 7 - قم بإدخال نهاية الأنبوب على الفور حتى يصل إلى علامة الإدخال ، قم بمحاذاة الأنبوب والمقبس.
- قم بتثبيتها على هذا الوضع لبضع ثوان ، ثم امسح الغراء الفائض مع مراعاة عدم لف الأنبوب في أي اتجاه .