CE

Intertek

BC CONDUIT

15 YEARS GUARANTY

CABLE MANAGEMENT SYSTEM

CONDUITS, FITTINGS & ACCESSORIES

SaudiFastGrowth 100

Real Companies, Real Growth, Real Success

ISO 9001:2008
American Systems Registrar
Certificate No: 5107

INTERTEK ETL SEMKO
Conduit Systems: Medium Duty
Sizes: 20/25/32/50 mm
Test Report Ref: 1301827-1

INTERTEK ETL SEMKO
Conduit Systems: Heavy Duty
Sizes: 20/25/32/50 mm
Test Report Ref: 1301827-2

INTERTEK ETL SEMKO
Conduit Systems: Extra Heavy Duty
Sizes: 20/25/32/50 mm
Test Report Ref: 1301827-3

S INTERTEK
Certification for
Medium, Heavy & Extra Heavy Duty Conduits
Certificate Ref: 1301827

S INTERTEK
Certification for
Junction Boxes
Certificate Ref:1313485

UL CERTIFICATION
For SCH 40 Rigid PVC Conduits according to UL 651
Certificate Ref. : E471489

S INTERTEK
Certification for
Fittings & Accessories for Conduits
Certificate Ref:1313493

BC CONDUIT
CONTENTS

GENERAL
INTRODUCTION

BC Conduit was established in 2013 to serve Saudi & MENA Market. It is based inside Bahra Cables Company, located 25 km from Jeddah.

BC Conduit started production of a variety of high quality polyvinyl chloride and unplasticised polyvinyl chloride (PVC & UPVC) compound in its state-of-the-art factory, which has an annual output capacity of over 36,000 tons. The company has the flexibility to produce a versatile range of PVC & UPVC products, to serve the construction and electrical utilities. The produced conduits and accessories comply with the American standards (NEMA and UL), European standards (IEC, BS and DIN) and Saudi and Gulf Standards (SASO and GSO).

The company sources PVC & UPVC feedstock from Saudi Basic Industries Corporation (SABIC) to produce the granule, also used for jacketing and insulating the cables. SABIC is one of the world's largest manufacturers of PVC & UPVC and the sole producer in Saudi Arabia.

The factory built with the expertise of Buss Company of Switzerland, is completely integrated and equipped with the latest technologies in the field.

The ability to manufacture UPVC compounds improves Bahra Cable Company's control over the material used in its cable and wire production, reduces product cost and adds higher performance values to its products.

The new factory also eliminates the need for local sourcing of PVC & UPVC compounds, ensures superior quality production of cables and creates more career opportunities in the region at the same time.

AREA

Bahra Cables Company has a total land area of about 500,000sqm at disposal. The built-up area, including offices and plant, is more than 100,000sqm.

MATERIAL INTRODUCTION

Polyvinyl Chloride, commonly known as PVC, was first recognized and characterized more 110 years ago, but due to its poor thermal stability making processing difficult, it was potentially introduced to the market only by 1930.

The problem caused by poor thermal stability were overcome by development of suitable stabilizers systems and PVC is now one of the world's leading synthetic polymer having very diverse applications.

The ability to change its properties, by the addition of plasticisers, from a hard rigid material to one that is soft and flexible enables a wide variety of processing equipment to be used to produce an almost limitless range of products to a thick cream.

UPVC is used for the production of extrusions and molding. And it is universally accepted as having the most suitable properties for use within the electrical industry.

BC Conduit Standards

BC Conduit PVC & UPVC products are manufactured in accordance with European (IEC, BS and DIN) standards, American standards (NEMA and UL) and Saudi and Gulf standards (SASO and GSO).

IEC 60423:	Conduit Systems for cable management – Outside diameters of conduits for electrical installations and threads for conduits and fittings.
BS EN 61386-1 IEC 61386-1:	Conduit systems for cable management — Part 1: General requirements
BS EN 61386-21 & IEC 61386 -21:	Conduit systems for cable management - Part 21: Particular requirements - Rigid PVC conduit systems.
BS EN 60670-1 2005 A 2013 & IEC 60670-1:	Boxes and enclosures for electrical accessories for household and similar fixed electrical installations

NOTE:

BS 6099-1:1981 was superseded with BS EN 50086-1:1994 which also withdrawn and superseded with BS EN 61386-1:2004 which also replaced by BS EN 61386-1:2008.

BS 6099-2-2.2:1982, IEC 60614-2-2:1980 was superseded with BS EN 50086-2-1:1996 which also withdrawn and replaced by BS EN 61386-21:2010 SASO 254/255 was replaced by SASO / IEC 61386-1 & SASO / IEC 61386-21.

NEMA TC2:	Electrical Polyvinyl Chloride Rigid (PVC) Conduit.
NEMA TC 6 & 8-2013:	Polyvinyl Chloride (PVC) Plastic Utilities Duct for Underground Installers.
NEMA TC 3:	Polyvinyl Chloride (PVC) Fittings for Use with Rigid PVC Conduit and Tubing For NEMA TC 2
NEMA TC 9:	Fittings for polyvinyl chloride (PVC) plastic utilities duct for underground installation for NEMA TC 6 & 8.
Regulations:	Bahra System complies with all the relevant requirement of the latest edition of the BS 7671 (IEE Wiring Regulations).
UL 651:	**Schedule 40, 80, Type EB, DB and A Rigid PVC Conduit and Fittings.**
GSO 32/2007:	Methods of testing plastic conduits and fitting for electrical installations.
GSO 33/2007:	Plastic conduits and fittings for electrical installations
SASO 14 (GS 675) DIN 8061/8062:	Unplastisized Polyvinyl Chloride (UPVC) Pipes Class 2, 3 & 4 & Class 5
SASO 15 (GS 676)	Methods of testing of Unplastisized Polyvinyl Chloride (UPVC) Pipes Class 2, 3, 4, & Class 5
BS-3506	Rigid PVC Pipes Class B & Class C & O for Industrial uses.
IEE Wiring Regulations:	Bahra System complies with all the relevant requirement of the latest edition of the BS 7671 (IEE Wiring Regulations).

SPECIAL ACHIEVEMENT AWARD FROM KING ABDUL AZIZ UNIVERSITY FOR SCIENCE & TECHNOLOGY FOR THE DEVELOPMENT & RESEARCH OF TELESCOPIC EXPANSION

PRODUCT CERTIFICATIONS AND APPROVALS

Certified by American Systems Registrar (ASR).

BC Conduit is certified for European Product Safety for the following products:

- Medium, heavy and extra heavy duty grade type conduits (Ref. 1301827-1, 1301827-2, 1301827-3)
- Fittings and accessories for conduits (Ref. 1313493)
- Junction Boxes (Ref. 1313485)

BC Conduit's with SASO quality mark.

BC Conduit satisfies provisions for CE marking, according to Low Voltage Directive 2006/95/EC.

BC Conduit's conduits & accessories are resistant to external influences according to following IP Codes:

• Extra Heavy duty conduits and accessories	IP66
• Heavy and Medium duty conduits and accessories	IP55
• Junction Boxes	IP50

Schedule 40, File no: E471489 Rigid PVC Conduits According to UL651

Approved Supplier with Aramco Vendor Code 10054650 with 9COM (6000000811)

Official Distributor for Conduit Accessories.

Intertek Ref: 1301827
Intertek Ref: 1301827 Ref: 1313493 Ref: 1313485
95/2006/EC Low Voltage Directive
Carlon Official Distributor

INTRODUCTION

CUSTOMER SATISFACTION:

Our Main objective is to provide quality products with exceptional quality assurance and excellance in customer service.

BC CONDUIT TECHNICAL TEAM:

The manufacture of high quality PVC & UPVC pipes requires a high degree of technical skills. BC Conduit has highly qualified technical team for any support to satisfy client and consultant.

ADVANTAGES WITH BC CONDUIT PRODUCTS

LIGHT WEIGHT AND EASY TO INSTALL

Weight less than 1/5 as much as steel and 1/2 as much as aluminum it means quick, easy installation, labor saving and reduced total job time

NON CORROSIVE

Since PVC can't corrode & is not affected by concrete additives, electrolysis, corrosive atmosphere, soils salts or excessive humidity. Hence services life under these conditions is far superior to that of other conduit materials.

FIRE RESISTANT

PVC is a thermoplastic material that inherently resists continuous combustion. It is classified as self-extinguishing when tested to ASTM D 635.

NON MAGNETIC

PVC is non magnetic, thus it reduces voltage drop and minimizes power loss.

RELIABLE JOINTS AND EASY IN PULLING THROUGH

Installation is simple, fast with solvent cement joints, Bahra conduit requires no threading. Its smooth enough, uniform interior walls make wire pull through faster and easier.

SAFETY

PVC conduits is non conductive and non-sparking.PVC conduits eliminate the dangerous second point of contract and phase to ground faults.

ASSEMBLY

All that is required to join your BC fittings with BC conduit is BSG solvent cement.

STRENGTH

Conduits & Fittings offer both high impact and high tensile strength.

CORROSION RESISTANT

PVC is resistant to external corrosion and pitting and will not rust. This ensures a lower maintenance cost and a longer performance life.

NON-CONDUCTIVE

PVC eliminates the most dangerous second point of contact in phase to ground faults. The use of a separate grounding conductor gives a complete and positive ground for the entire system.

CHEMICAL RESISTANT

Conduits &BC Fittings are resistant to a wide range of chemicals such as acids, alkalis or salt solutions.

TECHNICAL INFORMATION
IEC, BS & EN STANDARDS

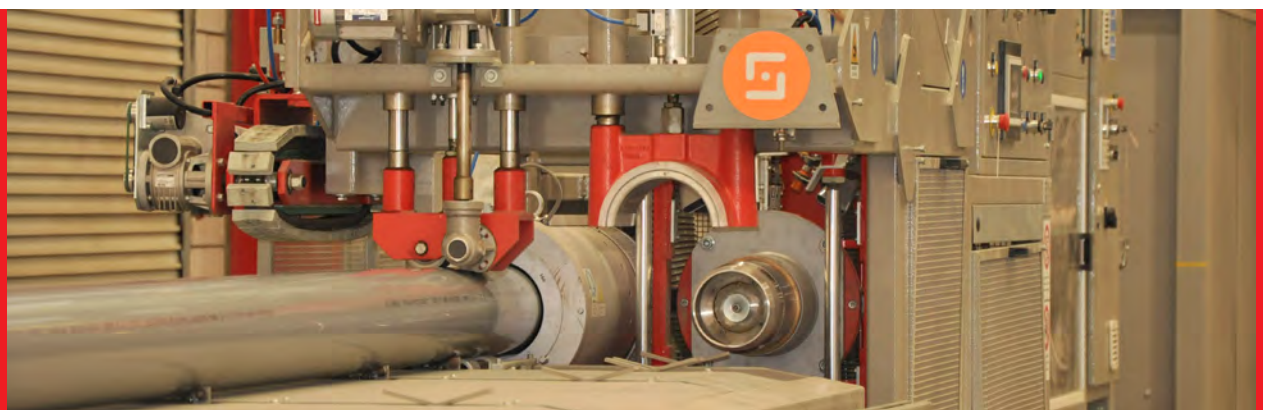
UPVC PROPERTIES

PROPERTY	ASTM TEST METHOD	UNIT	VALUE
General Properties:			
Density	D-792	gm/cm^3	1.40 - 1.55
Water Absorption	D-570/Proc. A	%	Max $\pm$0.03
Mechanical Properties:			
Tensile Strength, Ultimate	D-638	kg/cm^2	421.1
Modulus of Elasticity	D-638	psi	400000
Flexural Strength	D-790	Mpa	80
Hardness	D-785	Shore D	90
Izod Impact Strength	D-256	J/M	27-81
Thermal Properties:			
Heat Deflection Temp.	D-648 (Load 0.455 MPa)	°C	84.44
Vicat Softening Temp.	D-1525 (Rate B)	°C	84
Co-efficient of Thermal Expansion	D-696	mm/m/10°C	3×10^{-6}
Thermal Conductivity	C-177	W/(°Km)	0.19
Flammability Properties:			
Flammability	D-635	Resistance	Self extinguishing within 30s
Extent of Burning	D-635	mm	<50
Flammability Rating	UL-94	rating	V-O
Electrical Properties:			
Volume Resistivity	D-257	ohm.cm	3.23×10^{12}
Surface Resistance	D-257	ohms	$> 10^{12}$

TECHNICAL INFORMATION
AMERICAN STANDARDS

UPVC PROPERTIES

PROPERTY	ASTM TEST METHOD	UNIT	VALUE
General Properties:			
Density	D-792	gm/cm^3	1.47 ±0.03
Water Absorption	D-570/Proc. A	%	Max ±0.03
Mechanical Properties:			
Tensile Strength, Ultimate	D-638	kg/cm^2	492
Modulus of Elasticity	D-638	psi	400000-500000
Flexural Strength	D-790	Mpa	80
Hardness	D-785	Shore D	90
Izod Impact Strength	D-256	J/M	27-81
Thermal Properties:			
Heat Deflection Temp.	D-648 (Load 0.455 MPa)	°C	85
Vicat Softening Temp.	D-1525 (Rate B)	°C	84.93
Co-efficient of Thermal Expansion	D-696	mm/m/°C	4.5×10^{-6}
Thermal Conductivity	C-177	W/(°Km)	0.19
Flammability Properties:			
Flammability	D-635	Resistance	Self extinguishing
Extent of Burning	D-635	mm	<25
Flammability Rating	UL-94	rating	V-O
Electrical Properties:			
Volume Resistivity	D-257	ohm.cm	3.4×10^{12}
Surface Resistance	D-257	ohms	$> 10^{12}$



PRODUCT LIST OF MATERIAL

List of Products:

- Extra Heavy Duty UPVC Conduit
- Heavy Duty UPVC Conduit
- Medium Duty UPVC Conduit
- Light Duty UPVC Conduit
- Standard Coupling
- Expansion Coupling
- Bend Heavy Duty With Bell Ends
- Bend Light Duty With Bell Ends
- Round Spring Clips
- Female Adapter /Double
- Male Adapter
- Bushing for Female Adapter
- Adaptable Boxes
- Metallic Boxes
- UPVC Cement
- Lock Nut
- Lock Ring For Male Adapter
- Strap Saddles
- Saddle with Base
- Telescoping Double Tube Expansion Coupling
- Loop in Box
- Reducers
- Terminal One Way Box & Back Outlet
- Through Two Way Box & Back Outlet
- Angle Two Way Box & Back Outlet
- U Two Way Box & Back Outlett
- Tee Three Way Box & Back Outlet
- Intersection Four Way Box & Back Outlet
- H Four Way Box & Back Outlet-
- Circular Lids
- Rubber Gasket
- Circular Extension Ring
- Bending Springs
- Rigid PVC Conduits (NEMA TC2)
- Fabricated Couplings & End Bells (NEMA TC3)
- Type EB20 (NEMA TC6 & 8)
- Type EB35 (NEMA TC6 & 8)
- Type DB60 (NEMA TC6 & 8)
- Type DB120 (NEMA TC6 & 8)
- All Fittings (NEMA TC9)
- Class 2 (SASO)
- Class 3 (SASO)
- Class 4 (SASO)
- Class 5 (SASO)
- UPVC Elbows (SASO) 90deg & Different Angels
- Male Terminal Adapter
- Expansion Fittings
- End Bells
- End Caps
- Intermediate Spacers,Base Spacers
- BS-3506 Conduit & Fittings

IEC,BRITISH & EUROPEAN STANDARD

TECHNICAL INFORMATION

IEC,BS & EN STANDARDS

CONDUIT (ROUND SECTION HEAVY GAUGE HIGH IMPACT)

For classic conduit installation this provides a high degree of fortification or safety.
Temperature range: -5°C to 60°C (Minimum and Maximum), complies with BS EN/ IEC 61386-1 section 6.6.

BC Conduits can comply up to 75°C as tested by Bahra QC department.

Heavy Mechanical Stress (Section 2.2) complies with all related requirements of 16th edition of IEE Wiring Regulation and provides high degree of fortification or safety.

Outside θ (mm)	W.Thickness (mm)	Weight (kg/m)	Cross Section Area(mm²)
20	1.8	0.163	103
25	1.9	0.219	138
32	2.5	0.367	232
38	2.5	0.442	278
50	3.2	0.747	470

Conduits, Grades, Area and Weights

BC conduits are manufactured and tested as per IEC / EN 61386 (previously BS 6099) to withstand a wide range of impact and compression forces starting with Light Duty (2221), Medium Duty (3321) for flush and service applications, Heavy Duty (4421) for ceiling and wall installations, and Extra Heavy Duty (5521) for installation inside bulk concrete in temperature range of -5°C to 60°C.

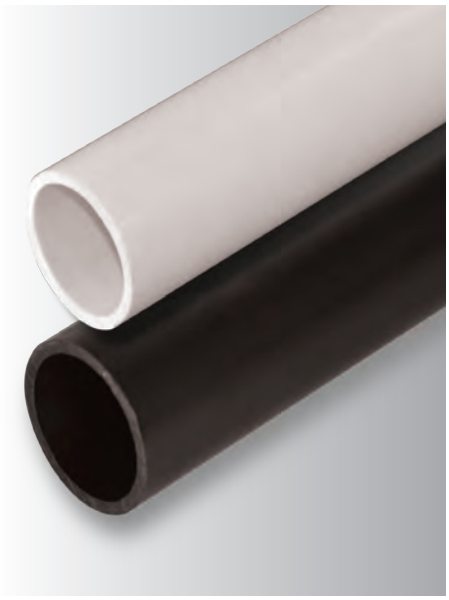
The following table shows the Nominal Dimensions of each type:

Outside Diameter (mm)	Nominal Thickness (mm)			Internal Area (mm²)		
	Light	Medium	Heavy	Light	Medium	Heavy
20	1.2	1.6	1.8	243	222	211
25	1.4	1.8	1.9	387	360	353
32	1.5	2.1	2.5	660	607	573
38	1.5	2.2	2.5	962	887	855
50	1.9	2.5	3.2	1590	1590	1493

Note: Extra Heavy Duty also available

EXTRA HEAVY DUTY UPVC CONDUIT * | IEC CODE 5521 4000N

Item Code	Nominal Size (O.D.)	Standard Packs		Bulk Packs
	mm	Pcs	Mtrs	Pcs
BEP-2	20	50	145	4550
BEP-3	25	25	72.5	3000
BEP-4	32	20	58	1800
BEP-5	38	20	58	1300
BEP-6	50	5	14.5	720

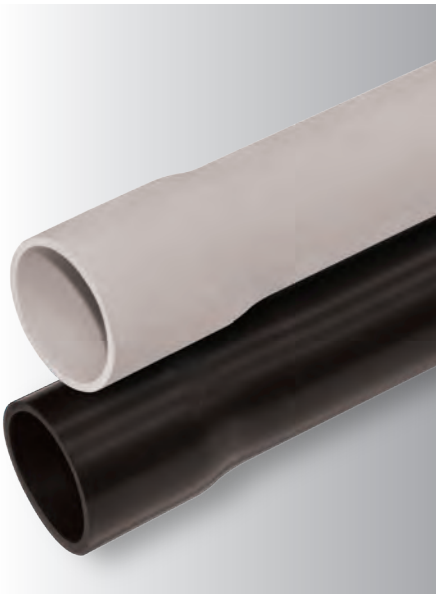


All pipes are also available with sockets

NEW

HEAVY DUTY UPVC CONDUIT *| IEC CODE 4421 1250N

Item Code	Nominal Size (O.D.)	Wall Thickness	Standard Packs		Bulk Packs
	mm	mm	Pcs	Mtrs	Pcs
BSP-2	20	1.8	50	145	4550
BSP-3	25	1.9	25	72.5	3000
BSP-4	32	2.5	20	58	1800
BSP-5	38	2.5	20	58	1300
BSP 6	50	3.2	5	14.5	720



All pipes are also available with sockets

NEW

MEDIUM DUTY UPVC CONDUIT *| IEC CODE 3321 750N

Item Code	Nominal Size (O.D.)	Wall Thickness	Standard Packs		Bulk Packs
	mm	mm	Pcs	Mtrs	Pcs
BMP-2	20	1.6	50	145	4550
BMP-3	25	1.8	25	72.5	3000
BMP-4	32	2.1	20	58	1800
BMP-5	38	2.2	20	58	1300
BMP 6	50	2.5	5	14.5	720

LIGHT DUTY UPVC CONDUIT *| IEC CODE 2221 320N

Item Code	Nominal Size (O.D.)	Wall Thickness	Standard Packs		Bulk Packs
	mm	mm	Pcs	Mtrs	Pcs
BLP-2	20	1.2	50	145	4550
BLP-3	25	1.4	25	72.5	3000
BLP-4	32	1.5	20	58	1800
BLP-5	38	1.5	20	58	1300
BLP 6	50	1.9	5	14.5	720

* Manufactured according to BS 6099, EN 61386 (IEC 61386), part 1 & 21 standard length 2.9m. Other lengths available on request.

*All above are available in 2 colors: Black and White. When ordering, use color suffix BK ■ WT □ with socket please mention 's' at the end of part number.