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LAPTEM

ELECTRICAL ENGINEERING SOLUTIONS
HAZ-PRO CONDUIT SYSTEM





Laptem Engineering Solutions

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ABOUT LAPTEM

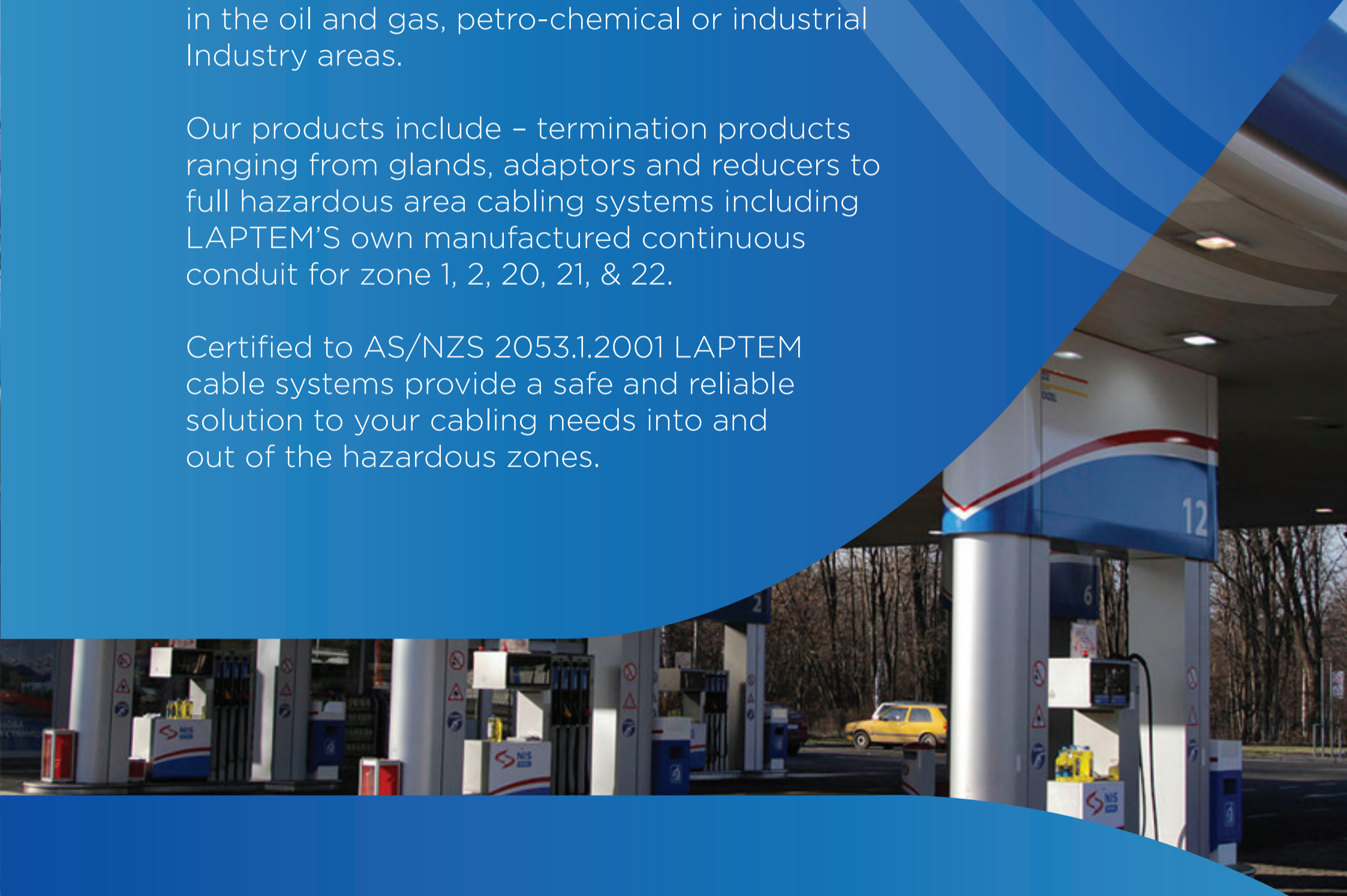
Our team of engineers, and industry professionals have been working hard to design and manufacture a range of products to support the automation and hazardous area industries in the Asia-Pacific region.

Our team of professional engineers have designed and manufactured industry leading components that ensure a safe and reliable solution to meet all of our client's circumstances.

Our range of products are suited to service providers in the oil and gas, petro-chemical or industrial Industry areas.

Our products include – termination products ranging from glands, adaptors and reducers to full hazardous area cabling systems including LAPTEM'S own manufactured continuous conduit for zone 1, 2, 20, 21, & 22.

Certified to AS/NZS 2053.1.2001 LAPTEM cable systems provide a safe and reliable solution to your cabling needs into and out of the hazardous zones.



32mm Haz-Pro Conduit (AS/NZS 2053.1)



- **Super Smooth Hydrocarbon Resistant HAZ-PRO barrier**
- **High-density Polyethylene (HDPE)**
- **Built Tough - PN16 Rating**

Certified to AS/NZS 2053.1.2001 LAPTEM cable systems provide a safe and reliable solution to your cabling needs into and out of hazardous zones.

Manufactured from high density polyethylene material, LAPTEM has developed a continuous conduit system that flows joint free for the whole of its length. LAPTEM HAZ-PRO conduit is lined with a super smooth HAZ-PRO inner layer, reducing friction and providing additional level of protection. LAPTEM conduit has been inspected and tested to be impervious to hydrocarbons Diesel and Petroleum by an Australian based NATA certified laboratory.

Available in 100 metre rolls, LAPTEM ensures a point to point application for all user applications. Our wide range of fittings including joiners, adaptors and terminations are available in both compression and electrofusion welded options and accompany LAPTEM's industry standard and certified 32mm conduit.



SIZE	D	E	PART No.	MATERIAL	CERT.	PN
32	32	3	LCS - CC - 32	HDPE	AS/NZS 2053.1.	PN16



See LAPTEM warranty terms & conditions for full details

HAZ-PRO Barrier Technology



- **Ultra-high resistance to hydrocarbons and oils**
- **Super-smooth high gloss finish**
- **Out-performs traditional nylon barriers**

Laptem HAZ-PRO Barrier Technology is a protective conduit lining that provides an excellent resistance to hydrocarbons, oils and organic solvents.

The protective HAZ-PRO barrier is produced using multi-layer co-extrusion process with the HAZ-PRO copolymer resin. This is combined with the industrial strength and flexibility of our tough HDPE PN16 Conduit. The combined fuel barrier of HAZ-Pro is about 4,400 times better than that of HDPE alone.

HAZ-PRO Barrier Technology is recognized as the leading choice for high-barrier fuel resistant electrical conduit. HAZ- PRO's superior properties make it possible to comply with stringent international fuel permeability standards.

HAZ-PRO Barrier also features a super smooth lining finish. This eliminates the need for additional lubrication when pulling cables. It's high gloss, anti-static properties also help to reduce resist dust build-up.

Resistance to Fuels of HAZ-PRO versus Traditional Nylon Barrier

Permeation (grams.mil/100 in 224 hrs.atm at 40°C)

FUEL/COMPONENT	HAZ-PRO BARRIER	NYLON TYPE BARRIER
REF Fuel C	0.0009	0.015
CM15	0.61	5.0
MTBE 15	0.0007	0.012
MTBE 100	0.0002	0.003
Toluene	0.001	-
Isooctane	0.003	-

Note: REF Fuel C = 100% hydrocarbon
CM 15 = Ref Fuel C + 15% Methanol
MBTR15 = Ref Fuel C + 15% MTBE

PP-M Compression Range

Features:

- **AS/NZ 4129 Certified**
- **Zero Liquid Penetration**
- **Simple Installation**
- **UV Stabilized**



RANGE: SUIT 32mm LAPTEM CONDUIT

MATERIAL: POLYPROPYLENE BODY

MATERIAL THREAD: NICKLE PLATED BRASS

WORKING PRESSURE: 200 PSI @23c

LAPTEM PP-M range of fittings feature a tough polypropylene body, with integrated nickel plated brass male BSP thread. This new hybrid fitting is designed to allow a direct seal with compatible y-seals, gland or barrier fittings.

LAPTEM's range of compression fittings are compatible with LAPTEM electrical conduit and come complete with Nitrile Buna rubber seals.

Male adaptor

DxD1	DN	PN	PART No.	MATERIAL	O-RING
32x3/4"	25x20	PN16	L-C-M10.1	PP	NBR
32x1"	25x25	PN16	L-C-M11.1	PP	NBR

Compression fittings

Features:

- AS/NZ 4129 Certified
- Zero Liquid Penetration
- Simple Installation
- UV Stablized

RANGE: SUIT 32 mm CONDUIT

MATERIAL: POLYPROPYLENE

WORKING PRESSURE: 200 PSI @23c

LAPTEM's range of polypropylene compression fittings are compatible with LAPTEM electrical conduit and come complete with Nitrile Buna rubber seals.



Coupling

D	DN	PN	PART No.	MATERIAL	O-RING
32	25	PN16	L-C-F10	PP	NBR



Plug

D	DN	PN	PART No.	MATERIAL	O-RING
32	25	PN16	L-C-F28	PP	NBR



Female adaptor

DxD1	DN	PN	PART No.	MATERIAL	O-RING
32x3/4"	25x20	PN16	L-C-F13	PP	NBR
32x1"	25x25	PN16	L-C-F14	PP	NBR

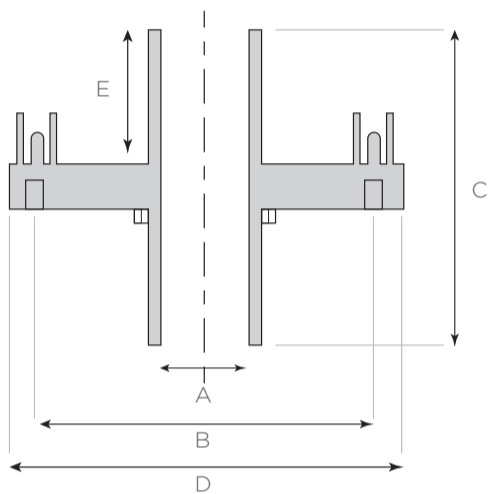
Electrofusion fittings

Laptem stock a range of Electrofusion fittings to suit your application. Electrofusion, a process of the welding polyethylene(PE), is done by heating elements embedded in the PE fitting sockets. The sockets require an electrical input from a specialised welding machine to prepare and set the welded joint.

Electrofusion allows a safe, efficient and economic method to achieve a continuous installation and is suitable for both above and underground PE pipe solutions.



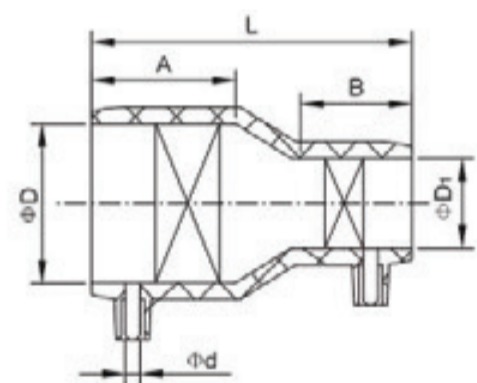
Electrofusion entry boot (primary)



PART NO.	D	B	A	E	C	PN	MATERIAL
L-EF-FEB	140	120	32	48	111	PN16	HDPE(PE100)

Electrofusion reducer (secondary)

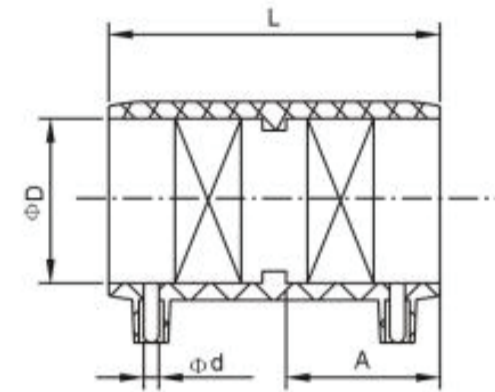
PART NO.	D	D1	A	L	B	d	PN	MATERIAL
L-EF-F100	40	32	50	100	45	4.7	PN16	HDPE(PE100)
L-EF-F110	32	25	50	94	45	4.7	PN16	HDPE(PE100)



Electrofusion fittings

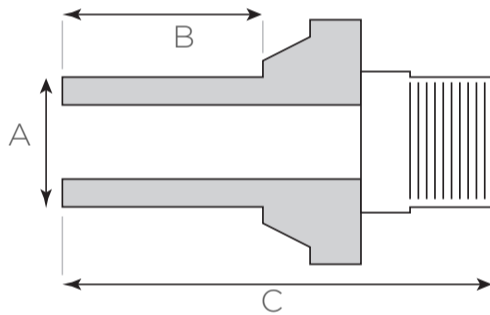
Electrofusion coupler

PART NO.	D	A	L	d	PN	MATERIAL
L-EF-F10	32	44	90	4.7	PN16	HDPE(PE100)



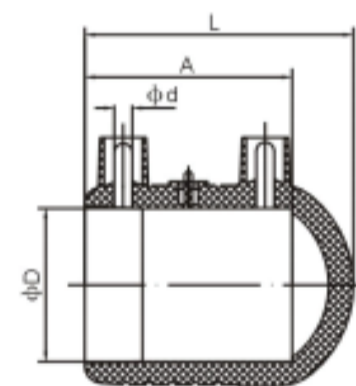
Electrofusion Male Transition Adaptor

PART NO.	THREAD TYPE	A	B	C	PN	MATERIAL
L-EF-M10	3/4" BSP	25	45	87	PN16	HDPE(PE100)
L-EF-M11	1" BSP	32	50	100	PN16	HDPE(PE100)



Electrofusion end cap

PART NO.	D	A	L	d	PN	MATERIAL
L-EF-F17	32	45	60	4.7	PN16	HDPE(PE100)



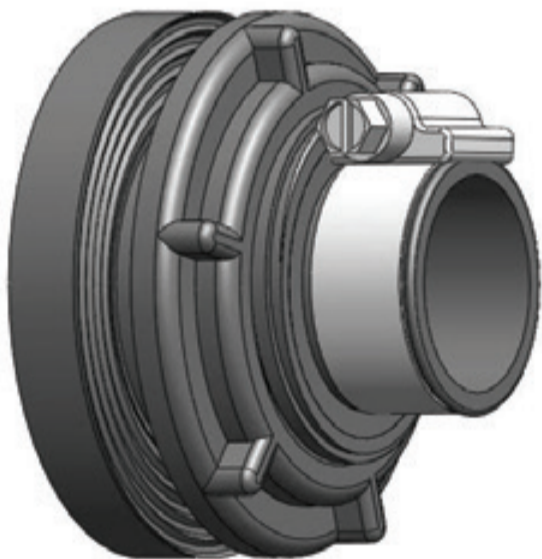
Sump Entry Boot

Features:

- **Single hole installation**
- **Moulded then CNC machined acetal body**
- **UV resistant acryln seal**
- **Stainless steel clamps**
- **Materials UL listed**

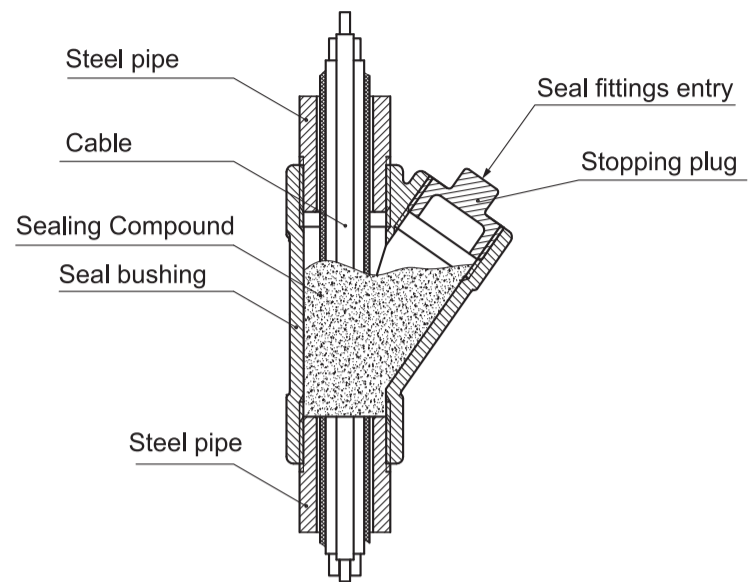


Laptem's range of Entry Boots are built tough and designed with simple installation in mind. Threads are machined as opposed to moulded, for increased integrity and ensures smooth and reliable fit each and every time. Conical shape allowing the penetration to seal to flat and curved surfaces. Suitable for both above and underground PE pipe solutions.



PART NO.	D	MATERIAL	SEAL
CP BOOT	32	ACETAL	ACRLYN

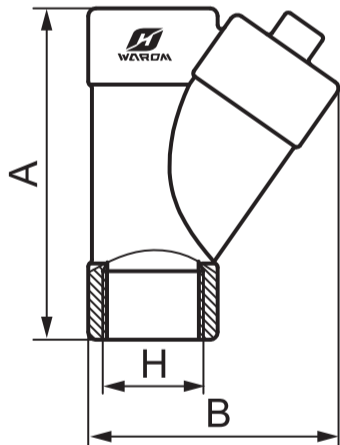
IECEX Compliance Y-Seal



Laptem has secured exclusive manufacturing of full IECEx compliant Y-seal vapour barriers.

Rated to IP66 and made from powder coated copper-free aluminium. Laptem Y-Seal Vapour Barriers are built to last, with moulded IECEx identification markings and complete with certified stainless steel blanking plug. Suitable for Zones 1 & 2; 21 & 22.

Megapoxy Epoxy Resin available to purchase separately.



Type Z

PART NO.	METRIC	BSP(H)	DIMENSIONS (mm)		CABLE OUTER DIAMETER (mm)
			A	B	
BAG-Z-BSP3/4/M20	M20	3/4"	87	65	10-14
BAG-Z-BSP3/4/M25	M25	3/4"	87	65	10-14
BAG-Z-BSP1/M25	M25	1"	102	78	12-17

CERTIFICATES:

EPT 14 ATEX 1124X; IECEx CQM 13.0029X; RU C-CN.ГБ08.B.00927(CU-TR)



SEALSAFE ZONE 1 HAZARDOUS AREA CONDUIT AND FITTINGS

Sealsafe provides a range of nickel plated brass barrier fittings for use with flexible braided PVC conduit, flexible metallic liquidtight conduit and rigid conduit.

Installation is fast and simple. All fittings can be easily attached to the conduit in the field eliminating the need for pre-assembled fixed length conduits. Similarly constructed fittings are available for use with either braided PVC or flexible metallic liquidtight conduit.

No mess no fuss, Sealsafe does away with the need for cumbersome potting liquids using a simple co-extruded epoxy putty packed into a conventional style fitting making installation possible at any angle.

PART NO.	DESCRIPTION	THREAD	CONDUIT
FHC-075	Female Barrier Fitting Ex d	3/4"BSP	FC - 16
FHC-100	Female Barrier Fitting Ex d	1"BSP	FC - 19
FHC-2003	Male Barrier Fitting Ex d	20 mm	FC - 16
FHC-2503	Male Barrier Fitting Ex d	25 mm	FC - 19
FHC-2002	Male Non-Barrier Fitting DIP	20 mm	FC - 16
FHC-2502	Male Non-Barrier Fitting DIP	25 mm	FC - 19



PVC Braided Conduit

Application:

Type FC Fibre Braid Reinforced Flexible PVC Conduit for use with Sealsafe type FHC conduit fittings.

Description:

A synthetic reinforcing braid is woven over the flexible PVC core. A flexible outer PVC jacket is extruded over the reinforcing braid to produce a Tough, resilient flexible conduit.

Core Material:

Black virgin PVC.

Jacket Material:

Orange Anti Static Virgin PVC with good resistance to petroleum products (no significant change in properties following 1000 hours exposure to fuel vapour) Flame retardant jacket complies with clause 1.12.3 (flammability test) of AS 2053. Refer Test Report 4667/2.

Degree of Protection:

IP68

Installation:

Refer to type FHC fittings

PART NO.	BORE (mm)	USE WITH FITTINGS
FC-16	16.0	FHC-2002, 2003, 075
FC-19	19.0	FHC-2502, 2503, 100

Explosion Protected Electrical Equipment

Laptem stock and distribute a wide range of high-quality Ex explosion protected electrical equipment to suit Zone 1, 2, 21 & 22. Laptem also have in-house Electrical Engineers available to discuss custom made Ex Electrical Engineering Solutions for your next project.

- **Ex Reducing Bushes**
- **Ex Adaptors & Thread Conversions**
- **Ex Emergency Stops**
- **Ex Isolator Switches**
- **Ex Junction Boxes**
- **Ex Terminal Boxes**



Lighting



Canopy light

- Simple installation
- Light weight, low profile heat sink design with excellent thermal
- IP66 & IK08
- High brightness LED chips
- 5 year warranty
- Can be recessed (420x420 or 600x600) or surface mounted with install kits.
- 50,000 hour lifespan
- Glare reduction cover optional
- Available in 75W, 150W, 200W



IECEX Lighting

IECEX Lighting available on request.

Please contact Lapterm for further information.

Lighting

Laptem LED Slimline Floodlight

Power: 100W, 150W, 200W –
Additional sizes available on request

IP Rating: IP65

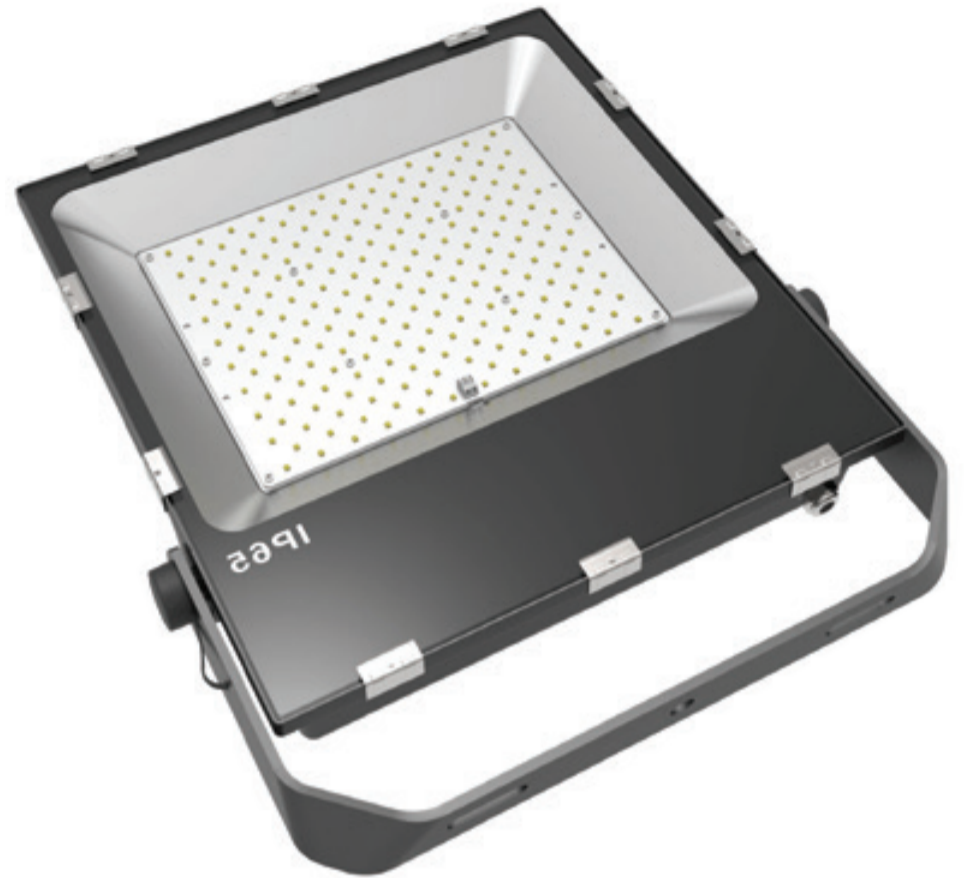
LED Colour Temperature: 6000K

Lifespan : 50000 Hours

Body Material: Aluminium

Approvals: SAA/C-tick, CE, RoHS

Warranty: 7 Years



No need for Halide floodlights, when you can utilise these LED Flood Lights, running half the energy and featuring high quality die-cast aluminium components. An IP65 rating rendering it safe for indoor and outdoor use. With a global certification process, this product carries CE, RoHS, SAA/C-tick (RCM) certification ensuring compliance.

PART NO.	WATTAGE	LUMEN OUTPUT
L-FL-100W	100W	12,500LM
L-FL-150W	150W	18,000LM
L-FL-200W	200W	24,600LM



Electrofusion Welder



- **Elektra Light**
- **Universal adapter Ø 4,0 – 4,7 mm**
- **Laser scanner**
- **Transport bag**
- **Manual scraper**

ELEKTRA LIGHT is an universal electrofusion machine & recommend for Laptem Electrofusion fittings. Suitable for welding pipe/fittings for the transport of gas, water, cable systems (HDPE, PP, PP-R couplings from 8 to 48 V)

The Elektra Light machine is made in compliance with international standards. This welding machine's structure is light weight, making it easy to carry around site.

The Elektra Light has an in built memory with 325 welding cycles - with ability to export report PDF file(additional cable required) for transfer to a PC.

LAPTEM Conduit Reel

Conduit Reel

The LAPTEM Conduit Reel is designed to make dispensing rolls of conduit a breeze. LAPTEM Conduit Reel keeps conduit and PE pipe organised, and away from harmful site contaminants.

Suits LAPTEM 32mm 100m(300ft) Conduit coils or similar size conduit and PE pipe.

Features & Benefits:

- Save time and money during site installs
- Reduce risk of contamination of conduit
- Reduce risk of scratches and cuts to conduit
- Reduce the frustration associated with coiled conduit
- The reel can be dis-assembled for transport
- Wheels for mobility
- Made out of industrial painted mild steel, and available in high-vis yellow.

INNER DIAMETER: 600mm

OUTER DIAMETER: 1050mm





TERMS & CONDITIONS

Provision of Products and Services

Laptem shall provide the client with the products/services specified in contract.

Payment

In the situation that Laptem provides products/services to the client, the payment method shall be clearly specified in the contract. Laptem shall provide the client with a tax invoice and the client shall pay the amount claimed in the contract. If not specified, the common payment method is:

- 50% of the payment upon the contract forming a legal binding.
- Remaining payment upon receiving the product.
- The invoice shall include 10% G.S.T.

Intellectual Property

Intellectual property refers to Laptem's documentation, products, trademark and scientific artists generated during the services.

All the intellectual property of Laptem belongs to Laptem. Any intellectual property created as a result of new requirement, new services and new products belongs to Laptem.

Use of Laptem's Product

Laptem shall provide a manual for each product, it is the users responsibility to follow the instructions while using Laptem's product.

Warranty

Laptem's products have a minimum one year warranty, provided that the procedures and manual is followed from procurement, utilisation, installation and maintenance.

Limitation of Liability

Laptem is not liable for any incidents that are caused by misuse of Laptem's product. It is the users responsibility to use Laptem's products as per the instruction.

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