



**ALLBRO UK  
ENCLOSURES  
CATALOGUE**

# Allbro Company History

1978

Allbro was founded out of an idea to manufacture insulated products to compete with Epoxies, which were expensive, slow to produce and labour intensive. This was our first experience with GRP materials.



Founders John & Jean Allan



1979 - 1991

Breakthroughs with new materials & design on 11kv insulators as well as the Air type through bushings .

1995-2001

- 1995 Allbro achieved approval to supply bushings for Eskom.
- In 1998 Allbro becomes an ISO 9000 company.
- In 2001 saw the launch of Allbro's lock and hinge division.



2003 - 2013

- 2003 Allbro launches Enclosures & Custom moulding division.
- In 2011 Allbro acquires ABB York.

2013 - 2016

During this period Allbro launched a series of new and innovative products.

- 2013 Allbro acquires Koponang Converters and increases its capacity and capability with plastic injection moulding & tool making.
- 2014 Allbro launches the manhole access chamber range.
- 2015 Allbro launches the Allbrox range.
- 2016 Allbro introduces the first high security pole top box known as the "AllVault™."



2017- 2018

- 2017 Allbro Acquires Demco which introduced phenolic thermoset moulding into companies capabilities.
- 2017 Allbro also opens an additional 5 000sqm<sup>2</sup> factory (Apex factory).
- 2018 Allbro opens a new bulk storage warehouse & New raw material compounding factory

**Enlec®**  
Polycarbonate Enclosures for Electronic & Electrical Applications



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**Utilec®**  
Standard General Purpose GRP Enclosures



Pg. 29

**Terminal Range**  
High Impact GRP Enclosures for Tough Environments



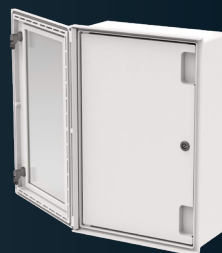
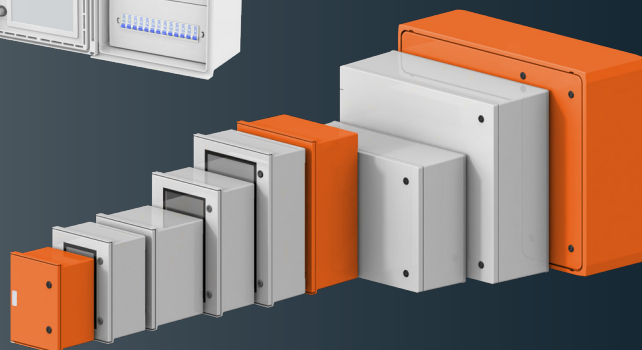
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**UB-40**  
**UB-41**  
Round GRP  
Junction Boxes



Pg. 34

**Allbrox®**  
Worlds leading range of industrial enclosures



Pg. 18

**Temporary Power Distribution Boards**



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**AllRobust™**



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**PV Combiner Brick**



Pg. 42

**AllTilt®**  
Pole Top Enclosures for Distribution and Metering



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**ADB Distribution Boards**



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**AllVault™**  
High Security Enclosure



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**Camera-Nest™**



Pg. 36



Designed and Manufactured in South Africa  
Since 1978

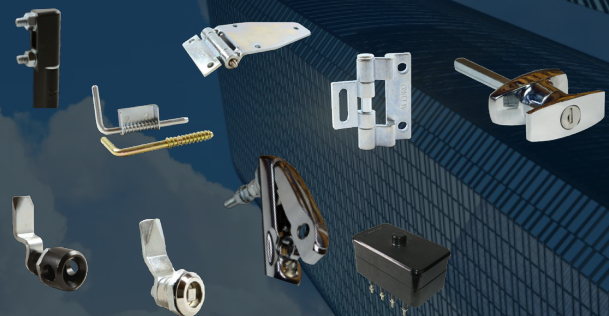


Established in 1978 Allbro is a South African company with more than 700 employees and has 22,000 sqm of production facility. Allbro supplies key components that are used in almost every locally made transformer. With the acquisition of ABB's South African enclosure operation (York) in 2011, Allbro also became a leading supplier of non-metallic enclosures to the industrial and residential contracting trade. Brands like York, Okari, Enlec, Utilec, PSO1 and PSO2 are well known in the South African market and are all solely manufactured by Allbro in South Africa. Local manufacture to international standards means that products are suited to the rigours of a tough local environment. Over the last 5 years Allbro has invested heavily into modern Non-metallic enclosure systems for international markets. This has been on a level unprecedented in South African history.

#### Enclosures



#### Switchboard Accessories



#### Insulators



#### Transformer Equipment





One of our core competencies is the design and manufacture of non-metallic electric enclosures. Various insulation materials are used in our production process:

**The two main families of materials can be separated into:**

- Plastics - Injection Moulded
- Glass Reinforced Polyester (GRP) - Compression Moulded

**Plastics**

18 Injection moulding machines up to 400T.



GRP - Compression moulding 120 machines up to 800T.







\* Assembly



\* Bulk Storage warehouse

## Glass Reinforced Polyester (GRP)

Modern industries demand structural materials that are lightweight, strong and versatile. Materials that resist corrosion and temperature extremes and which deliver freedom of design and low system costs. The ideal solution is a family of structural, fibre reinforced thermosets: SMC (Sheet Moulding Compound) and DMC (Dough Moulding Compound). These materials combine mechanical and physical properties with the lowest system cost, without compromising quality.

Exceptional electrical and UV properties make GRP the material of choice for outdoor electrical enclosures.

Allbro compounds its own SMC and DMC. Numerous formulations have been engineered to address different technical application challenges. Since DMC and SMC are composite materials, we are able to dramatically change aspects like strength, conductivity, surface finish, colour, chemical compatibility etc.

### Dough Moulding Compound (DMC) (Also known as BMC)



### Sheet Moulding Compound (SMC)



### DMC compared to SMC

#### DMC



Fibre lengths 6, 12, 18 mm

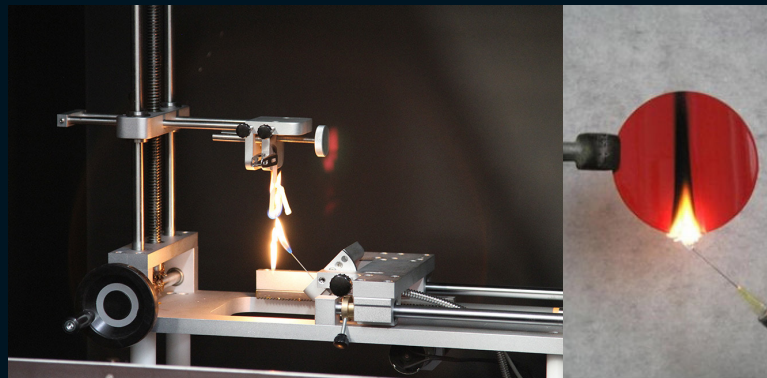
#### SMC



Fibre lengths 25-50mm

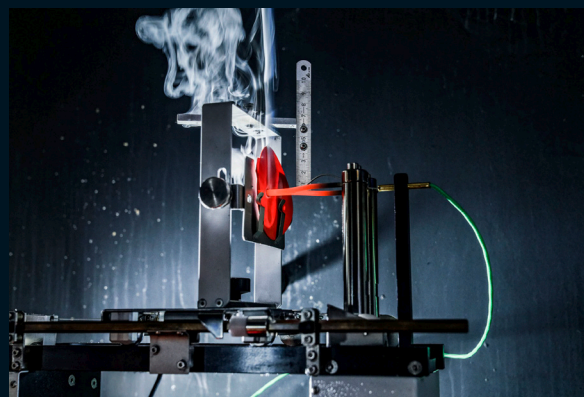
\* See Material Properties on Page 14 for detailed information

## IEC 60695-11-10 Needle Flame Test or UL94 - Flame Resistance Test



<b>5VA Surface Burn</b>	Burning stops within 60 seconds after five applications of five seconds each of a flame (larger than that used in Vertical burn testing) to a test bar. Test specimens MAY NOT have a burn-through (no hole). <b>This is the highest (most flame retardant) UL94 rating.</b>
<b>5VB Surface Burn</b>	Burning stops within 60 seconds after five applications of five seconds each of a flame (larger than that used in Vertical burn testing) to a test bar. Test specimens MAY HAVE a burn-through (a hole).
<b>V-0 Vertical Burn</b>	Burning stops within 10 seconds after two applications of ten seconds each of a flame to a test bar. NO flaming drips are allowed.
<b>V-1 Vertical Burn</b>	Burning stops within 60 seconds after two applications of ten seconds each of a flame to a test bar. NO flaming drips are allowed.
<b>V-2 Vertical Burn</b>	Burning stops within 60 seconds after two applications of ten seconds each of a flame to a test bar. Flaming drips ARE allowed.
<b>H-B Horizontal Burn</b>	Slow horizontal burning on a 3mm thick specimen with a burning rate of less than 3"/min or stops burning before the 5" mark. H-B rated materials are considered "self-extinguishing." <b>This is the lowest (least flame retardant) UL94 rating.</b>

## IEC 60695-2-11 Glow Wire Test



Glow wire tests are a requirement for enclosures that house electrical circuits. It is a very important requirement for materials that are made from petrochemical base materials. Plastics and Resin materials both fall into this category.

The importance of verifying the properties of the insulation material has been illustrated recently with the Grenfell Tower fire in 2017.



Glow wire testing for electrical enclosures is traditionally done at 3 different temperatures depending on where the part is used in the system. A cover can be tested at 650° whilst boxes that are built into a wall need to be tested at 850° and a part that is in contact with current carrying components should be tested at 960°. Due to the confusion that can be created many end-users ask for an additional test to be performed which is a needle flame test. The reason for this is that 650° is often not a high enough temperature to ignite the material so the flammability is not necessarily tested.

It is recommended that all enclosures that are installed in public spaces are glow-wire tested to 960° (IEC 60695-2-11) as well as Needle flame (IEC 60695-11-10)



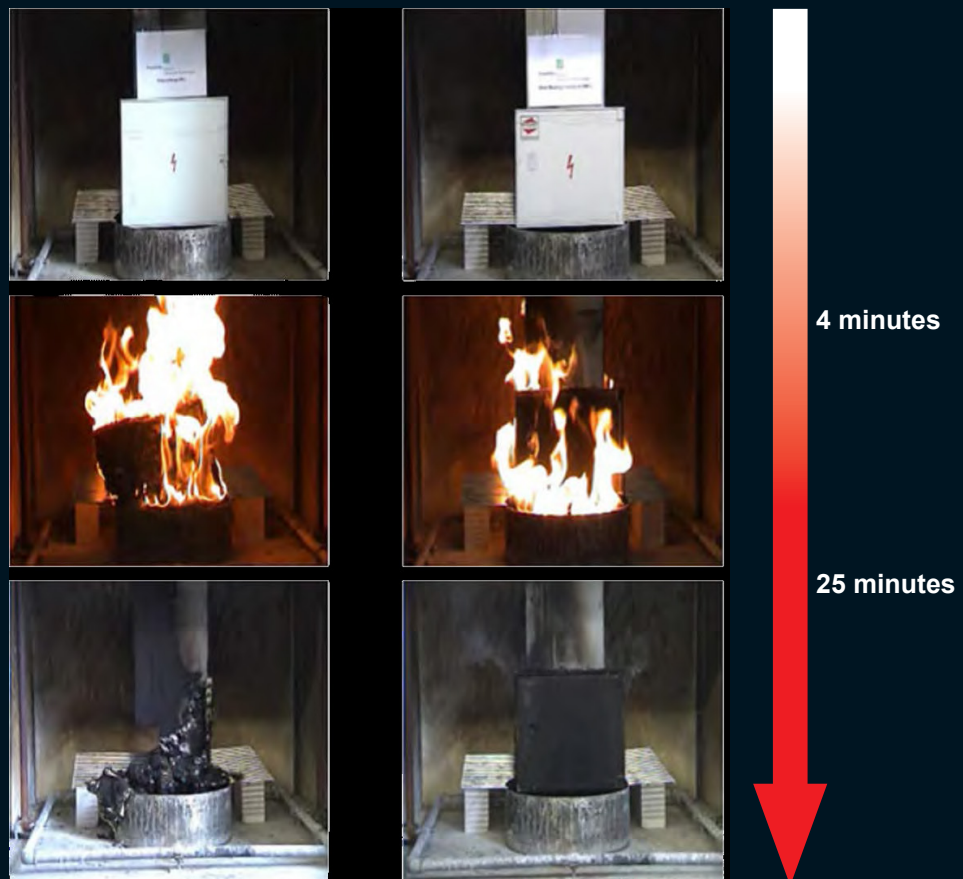
## Extended - Real Life Flammability Test

While Needle flame is an interesting flammability test for plastics in general the test below shows how much better SMC performs against even the most advanced engineered V0 plastics. Such testing is being introduced in places where "Veld Fires" (Bush fires) are a possibility. The test below is not a standard IEC test. In this test an enclosure is exposed to a 4-min burn instead of a 30 second small flame exposure.

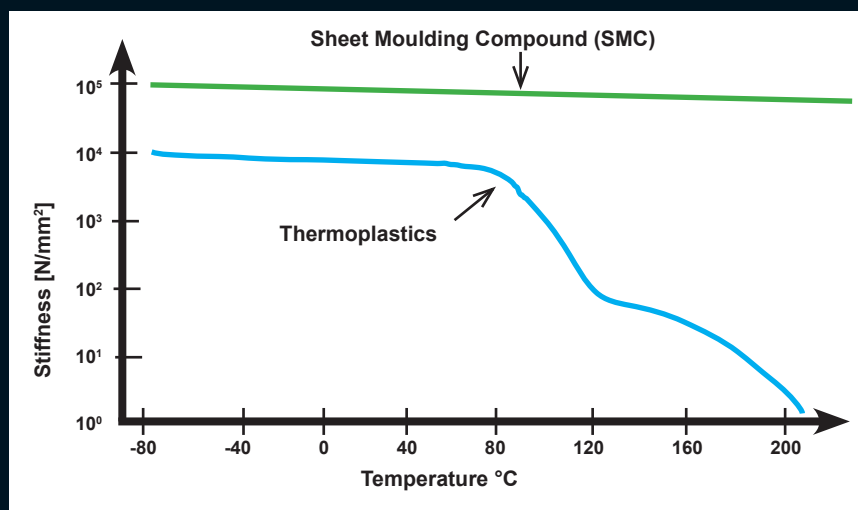
The challenge that even self-extinguishing plastics experience is that they can only self extinguish once the flame source is removed. A sustained arc or external flame renders even fire-retardant plastics to essentially become a fuel source for the flame. When such an enclosure is mounted to a wooden pole or a building the concentrated source of fuel can create devastation. SMC is therefore a better choice than plastic.

### Thermoplastic Cabinet UL94 V0

### SMC Cabinet

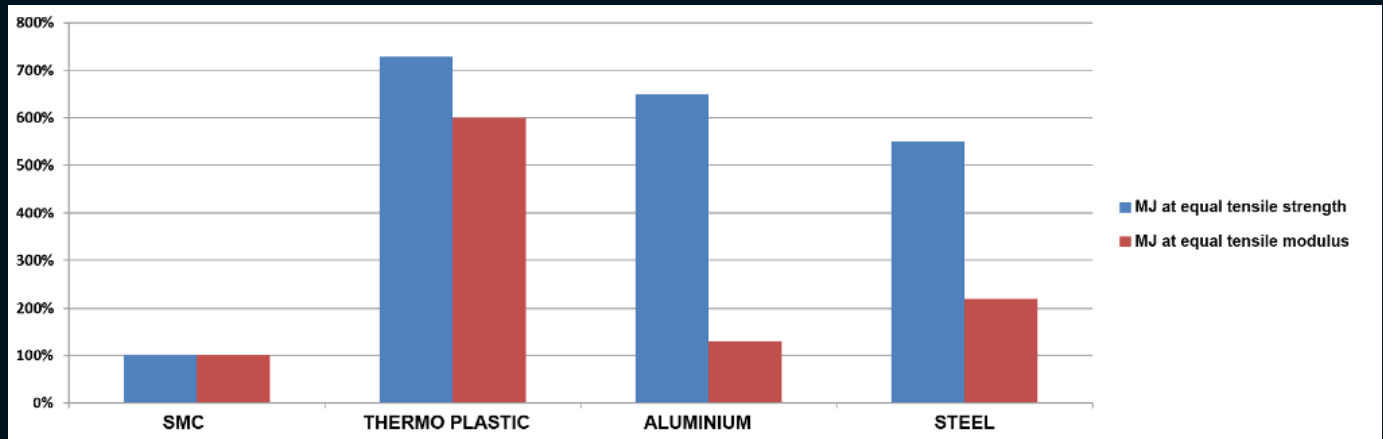


## Retention of dimensional properties: GRP compared with plastics

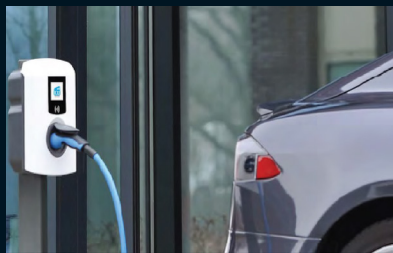


## "GRP is Green"

Energy use is an important element in the total environmental impact of a product. Producing materials from base materials requires energy in each step of the process. A way to compare the energy use for the production of a part is to calculate back to equal properties. In the graph below the relative use for producing a part with equal tensile strength and equal tensile stiffness is represented:



***" a part produced in SMC requires 5-7 times less energy to be produced than producing the same part in steel, aluminium or thermoplastic materials at equal strength"***





\* SMC manufacturing line



\* DMC manufacturing line



\* DMC mixing Z blades

## SMC and DMC manufacturing process

SMC is made as a continuous sheet. The resin paste is transferred to a doctor box where it is deposited onto a moving carrier film passing directly beneath. The doctor box controls the amount of the resin paste applied. Simultaneously, glass fibre rovings are fed into a rotary cutter above the resin-covered carrier film. Fibres are chopped to length (generally 25mm or 50mm) and randomly deposited onto the resin paste. The amount of glass is controlled by the cutter and by the speed of the carrier film. Downstream from the chopping operation, a second carrier film is coated with resin paste and is laid, resin side down, on top of the chopped fibres. This stage of the process creates a resin paste and glass fibre 'sandwich' which is then sent through a series of compaction rollers where the glass fibres are consolidated with the resin paste and air is squeezed out of the sheet.

Sheet dimensions are normally 2-4 mm thick and 1.1 mm wide. The length and weight of the SMC sheet is determined by moulder preference for handling and is usually stored on a 350kg (standard) up to 1500kg rolls or bi-folded (like computer paper) into large bins. Modern SMC production is a highly automated and computer regulated process. Before the SMC can be used for moulding it must mature. This maturation time is necessary to allow the relatively low-viscosity resin to chemically thicken. The SMC will be kept in a maturation room at a controlled temperature (normally 48 hours at 30°C) and typically requires two to five days to reach the desired moulding viscosity. Usually SMC has a shelf life ranging from several weeks to several months from the date of manufacture. The time frame can be extended or reduced depending on the SMC formulation and storage conditions.

Like SMC, DMC is a fibre reinforced composite material which primarily consists of an amalgam of thermosetting resin, chopped glass fibre reinforcement and filler in the form of a bulk material. Additional ingredients such as low profile additives, cure initiators, thickeners and mould release agent are added to enhance processing performance. DMC is less loaded with glass fibres than SMC and fibre length is shorter at 6 to 12mm. Filler loadings are higher than for SMC. There are several techniques for the batch production of DMC. The most common mixing process involves a Z-blade mixers which amalgamates the resin paste, fillers, additives and reinforcements into a mass material with a dough-like consistency. The bulk product is packed in plastic bags impermeable to styrene diffusion and supplied in bins. Like with SMC, it can be supplied in pre-weighed charges according to customer needs.



Typical property	standard	units	SMC 1-20	SMC 2-20	BMC/DMC
Density	ISO 1183	g/ccm	1.8	1.8	1.8
Fibre content	EN ISO 1172	mass-%	20	30	18
Fibre type			Glass	Glass	Glass
Recycling code	VDA 260		UP-GS20	UP-GS30	UP-GS20
Recyclable	-	-	Yes	Yes	Yes
Young's modulus 1)	EN ISO 527-4	GPa	9	10.5	13
Tensile strength 1)	EN ISO 527-4	MPa	55	70	31
Tensile rupture strain 1)	EN ISO 527-4	%	1.4	1.4	0.4
Compression strength 1)	EN ISO 14126	MPa	160	160	160
Poisson's ratio 1)	EN ISO 527-4	-	0.3	0.3	0.3
Flex modulus 1)	EN ISO 14125	GPa	10.5	10.5	9.5
Flexural strength 1)	EN ISO 14125	MPa	150	165	90
Impact strength 1)	EN ISO 179	KJ/m <sup>2</sup>	60	70	30
CTE 1)	ISO 11359-2	10-6m/mK	18	18	18
Continuous service temperature	Similar to IEC 216	°C	150	150	150
Short term service temperature	-	°C	210	210	210
Heat distortion temperature	EN ISO 75-2	°C	200	200	200
Specific heat capacity	-	J/gK	1.1	1.1	1.1
Volume resistivity	IEC 60093	Ohm*cm	10 <sup>12</sup>	10 <sup>12</sup>	10 <sup>7</sup>
Surface resistivity	IEC 60093	Ohm	10 <sup>14</sup>	10 <sup>14</sup>	10 <sup>9</sup>
Comparative tracking index	IEC 60112	CTI	600	600	600
Dielectric strength	IEC 60243-1	kV/mm	25	25	25
Dielectric constant	IEC 60250	-	4.5	4.5	4.5
Dissipation factor	IEC 60250	-	0.01	0.01	0.01
Oxygen index	EN ISO 4589-2	%	22	22	22
Flammability	UL 94	level/thickness	V0/3.2mm	V0/3.2mm	V0/3.2mm
Flammability	ISO 3795	Class/thickness	NBR/3.2mm	NBR/3.2mm	NBR/3.2mm
Fire / smoke	EN 45545	Hazard Level			
Glow bar	IEC 60707	level	BH2-95	BH2-95	BH2-95
Glow wire	IEC 60965-2-1	°C	960	960	960
Water absorption	ISO 62	% after 24h	<0.3	<0.3	<0.3

## Notes:

All materials supplied for SMC/BMC are in accordance with: ROHS, SMC/BMC materials do not contain heavy metals, asbestos, halogens or other toxic materials. All values in this table are representative mean values taken from compression moulded flat panels. Properties may vary due to modifications of products, moulding conditions or environmental influence. Properties given are accurate to the best of our current know-how and experience.

All reinforcement glass fibres used are textile glass fibres of a diameter greater than 14 microns and cannot be inhaled or otherwise ingested.

Textile fibres are not hazardous fibres.

SMC and BMC are recyclable materials

## RATING KEY:

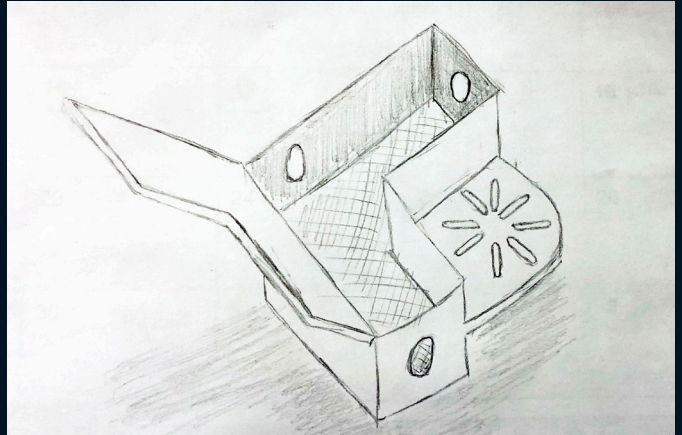
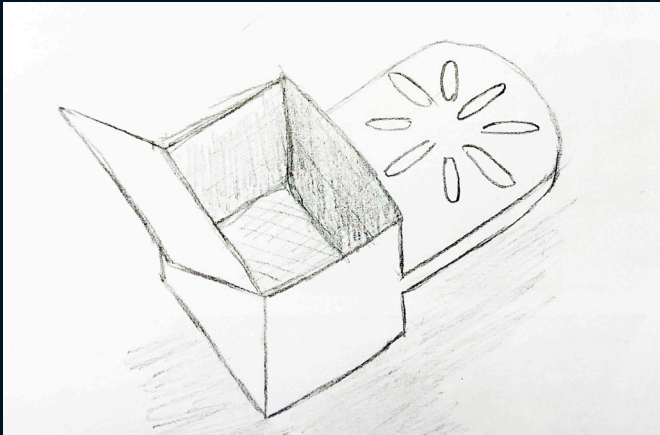
<b>E</b>	<b>Excellent</b>	<b>P</b>	<b>Poor</b>
<b>G</b>	<b>Good</b>	<b>NR</b>	<b>Not Recommended</b>

Chemical	Rating	Chemical	Rating	Chemical	Rating
Acetic Acid (10%)	E	Fluorine	NR	Perchloroethylene	E
Acetone	P	Formaldehyde	E	Petrol	G
Acetaldehyde	NR	Formic Acid	E	Phosphoric Acid (25%)	P
Aluminium Chloride (10%)	E	Glycerine	E	Phosphoric Acid (50%)	NR
Aluminium Sulfate (10%)	E	Hydraulic Brake Fluid	E	Potassium Carbonate	E
Ammonia Gas	E	Hydraulic Oil	E	Potassium Chloride (25%)	E
Ammonium Chloride	E	Hydrochloric Acid (10%)	G	Potassium Hydroxide (25%)	NR
Ammonium Hydroxide (10%)	P	Hydrocyanic Acid	NR	Potassium Nitrate (10%)	E
Ammonium Nitrate (10%)	E	Hydrofluoric Acid (20%)	NR	Potassium Sulfate (10%)	E
Ammonium Phosphate(10%)	G	Hydrogen Peroxide	G	Sodium Bicarbonate (10%)	E
Ammonium Sulfate	E	Hydrogen Sulphide	E	Sodium Bisulfate (10%)	P
Aniline	NR	Hypochlorous Acid	E	Sodium Chloride (25%)	E
Axle Grease	E	Isopropyl Alcohol	E	Sodium Hydroxide	NR
Benzene	E	Kerosene	E	Sodium Hypochlorite (15%)	G
Boric Acid (10%)	E	Lacquer Thinner	E	Sodium Nitrate (10%)	E
Bromine	P	Lactic Acid	E	Sodium Phosphate (10%)	E
Butyl Acetate	P	Lime	G	Sulphuric Acid (25%)	E
Butyric Acid	E	Liquid Dish Soap (10%)	E	Sulphurous Acid (10%)	NR
Calcium Chloride (10%)	E	Lubricating Oils	E	Tannic Acid (10%)	E
Calcium Hydroxide (10%)	E	Magnesium Chloride (10%)	E	Tetrahydrofuran	P
Calcium Hypochlorite (10%)	G	Magnesium Hydroxide (10%)	E	Toluene	E
Calcium Sulfate	E	Mercuric Chloride	G	Trichloroethylene	NR
Carbolic Acid (25%)	P	Isopropyl Alcohol	E	Trisodium Phosphate	G
Carbon Disulfide	P	Kerosene	E	Turpentine	G
Carbon Tetrachloride	G	Lacquer Thinner	E	Vegetable Oils	E
Chlorine (dry)	E	Lactic Acid	E	Vinegar	E
Chlorine (water) 5-10 ppm	P	Lime	G	Water, Industrial	E
Chlorobenzene	E	Liquid Dish Soap (10%)	E	Water, Sea	E
Chloroform	NR	Lubricating Oils	E	Water, Tap	E
Chrome Plating Solutions	P	Magnesium Chloride (10%)	E	Xylene	E
Chromic Acid (10%)	E	Magnesium Hydroxide (10%)	E	Zinc Acetate	E
Citric Acid (10%)	G	Mercuric Chloride	G	Zinc Chloride	E
Copper Sulfate (30%)	E	Methyl Ethyl Ketone	P	Zinc Sulfate	E
Creosote	P	Methylene Chloride	E		
Diethyl Ether	E	Milk	E		
Ethyl Alcohol	E	Mineral Oil	E		
Ethylene Dichloride	P	Mineral Spirits	E		
Ethylene Glycol	E	Nickel Salts	E		
Ferric Chloride	E	Nitric Acid (10%)	G		
Ferric Nitrate	E	Nitrobenzene	P		
Ferric Sulfate	E	Oleic Acid	E		

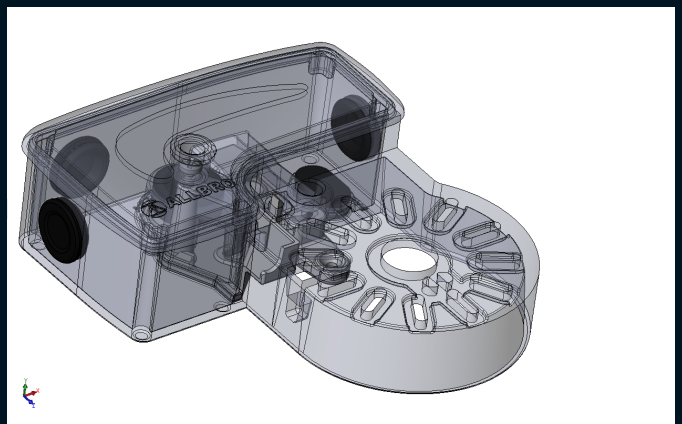
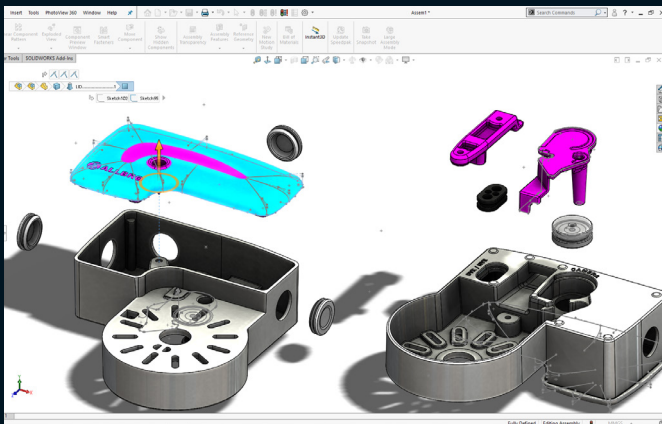
\*Note: This table is for reference purposes only. Allbro suggests real life testing within applications to ensure compatibility

Allbro has become a leading innovator in the markets we serve. 4% of sales revenue is spent on R&D currently. Which is 8 times more than the company spends on marketing. Several “world first” concepts have been created in the past few years. In house design & tool making capabilities allow the company to rapidly take an idea and turn it into a final product.

## Concept:



## Design:



## Tool Manufacturing:





Damage to enclosures may impair the proper function of the installed equipment — e.g. Switch control gear — or, in the worst case, even render it inoperative, As well as affect the Ingress Protection (protection against dust and water) of the enclosures. The relevant protection category that specifies an enclosures resistance to impacts is the IK code - IEC62262. This IK code classification is established using a standardised testing method in line with the standard.

## Degree of protection against external mechanical impacts (IK code)

Verification of the degree of protection against mechanical impacts shall be carried out in accordance with IEC 62262 by means of a test hammer suitable for the dimensions of the enclosure.

The enclosure shall be fixed on a rigid support as for normal use.

The impact energy shall be applied:

- Three times to each exposed surface in normal use whose largest dimension is not above 1m
- Five times to each exposed surface in normal use whose largest dimension is greater than 1m.

The test shall not be applied to the enclosure components(locks, hinges, etc.)

The impacts shall be applied with even distribution over the faces of the enclosure.

After the test, the enclosure shall continue to provide the Ingress Protection code and dielectric strength.

## IK code and impact energy

IK code	IK00	IK01	IK02	IK03	IK04	IK05	IK06	IK07	IK08	IK09	IK10
Impact energy (joule)	*	0,14	0,2	0,35	0,5	0,7	1	2	5	10	20

## Impact test characteristics

IK code	IK00	IK01 to IK05	IK06	IK07	IK08	IK09	IK010
Impact energy (joule)	*	<1	1	2	5	10	20
R mm (radius of striking element)	*	10	10	25	25	50	50
Mass kg	*	0.2	0.5	.5	1.7	5	5
Pendulum hammer	*	Yes	Yes	Yes	Yes	Yes	Yes
Free fall Weight	*	No	Yes	Yes	Yes	Yes	Yes
Free fall Height	*	No	20cm	40cm	29,5cm	20cm	40cm



IK Testing

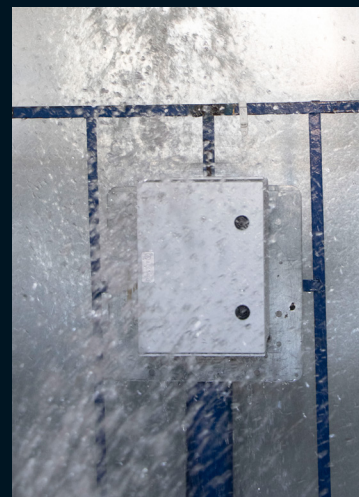
\*Photo taken in Allbro's Testing Lab

- Static loads: Test 1.25 x maximum permissible load as declared by manufacturer for 1 hour.
- Lifting: Applicable to enclosures with lifting accessories.
- Axial loads of metal inserts: When threaded metal inserts are provided to retain the mounting plate/switch control gear supported.
- IK code: Test according to standard IEC 62262 with pendulum impact tester. After testing, the enclosure keeps its IP rating.
- IP rating: Test according to standard IEC 60529. Degree of protection against access to hazardous parts and the penetration of solid bodies and against the penetration of water.
- Thermal stability at a temperature of 70°C for duration of 168 hours.
- Resistance to abnormal heat and to fire: Glow wire test according to IEC 60695-2-10 and IEC 60695-2-11 (1).
- Dielectric strength: 5000V (1)
- Protection circuit continuity (2): Resistance not to exceed 0.1 ohm
- Weather resistance: Duration 500h (cycle: rain 5 minutes + UV lamp 25 minutes)
- The degree of protection provided by the enclosures are defined by standards IEC 60529 (IP) and IEC 62262 (IK)
- Degrees of protection are indicated by the letters IP followed by two characteristic numerals.  
The numerals show the degree of protection offered by the enclosure against access to dangerous parts, the penetration of solid bodies (1st numeral) and against the penetration of liquids (2nd numeral).
- The protection against external mechanical impact is indicated by the letters IK followed by a characteristic group numeral.

## IP Rating for Enclosures IEC 60529

Since enclosures require periodic maintenance conducted by specialists, additional regulations establish the requirements that the manufacturer of these products should have to ensure technical operations are carried out safely. IEC 60529 is an international standard that was created for the purpose of clarifying the capability of an enclosure to protect the contents from solid and liquid bodies.

Allbro is one of a handful of manufacturers in the world that test several production and not just for initial design verification / certification .

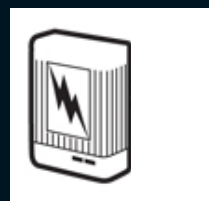


IP Level Testing

\*Photos taken in Allbro's Testing Lab

**IP**

Protection against solid bodies

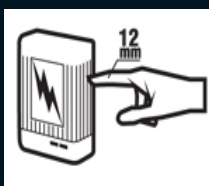


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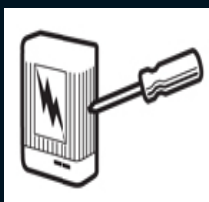
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**1**



**2**



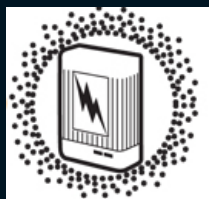
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**4**



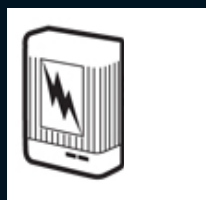
**5**



**6**

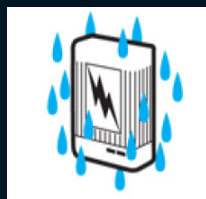
Totally dust tight

Protection against liquids

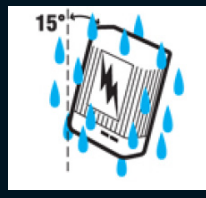


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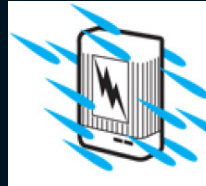
No Protection



**1**



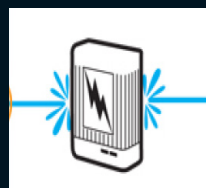
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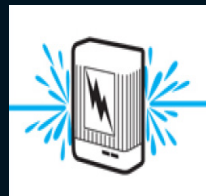
**3**



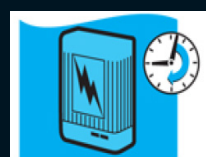
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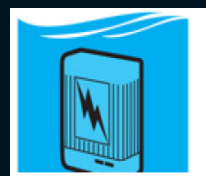
**5**



**6**



**7**



**8**

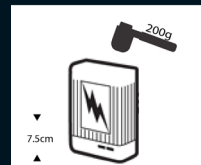
**IK**

Protection against force



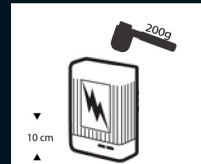
**0**

No Protection



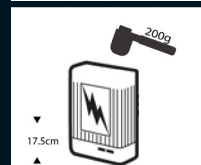
**01**

Impact energy  
0.150 Joules



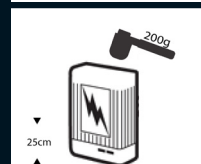
**02**

Impact energy  
0.200 Joules



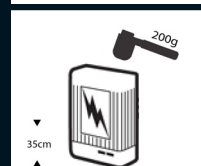
**03**

Impact energy  
0.350 Joules



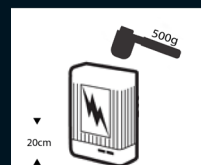
**04**

Impact energy  
0.500 Joules



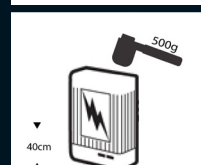
**05**

Impact energy  
0.700 Joules



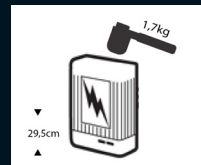
**06**

Impact energy  
1.00 Joules



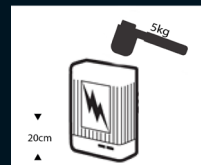
**07**

Impact energy  
2.00 Joules



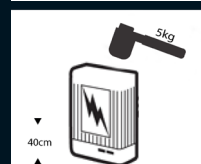
**08**

Impact energy  
5.00 Joules



**09**

Impact energy  
10.00 Joules



**10**

Impact energy  
20.00 Joules



No standard exists for enclosure access, so to make things easier we have created one of our own.

Security Level	1	2	3	4
----------------	---	---	---	---

Open Access - Enclosure can be opened without a tool.

Example:



Security Level	1	2	3	4
----------------	---	---	---	---

Limited Access - Tool is required

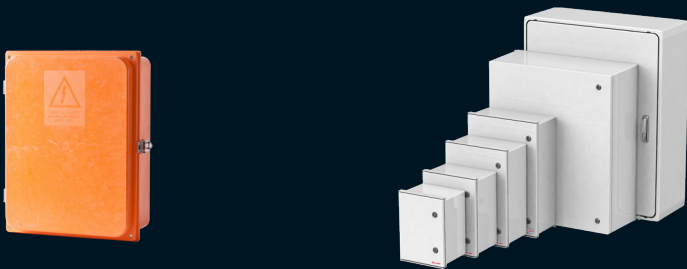
Example:



Security Level	1	2	3	4
----------------	---	---	---	---

Limited Access - Lockable

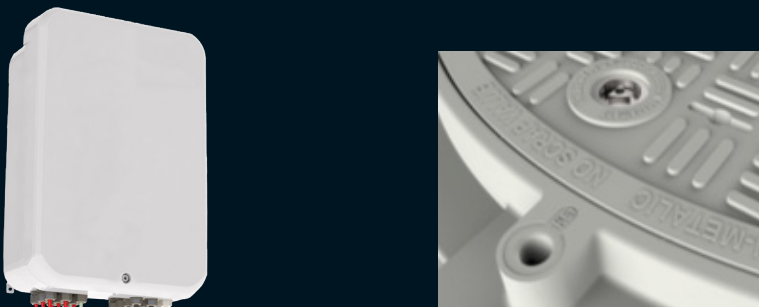
Example:

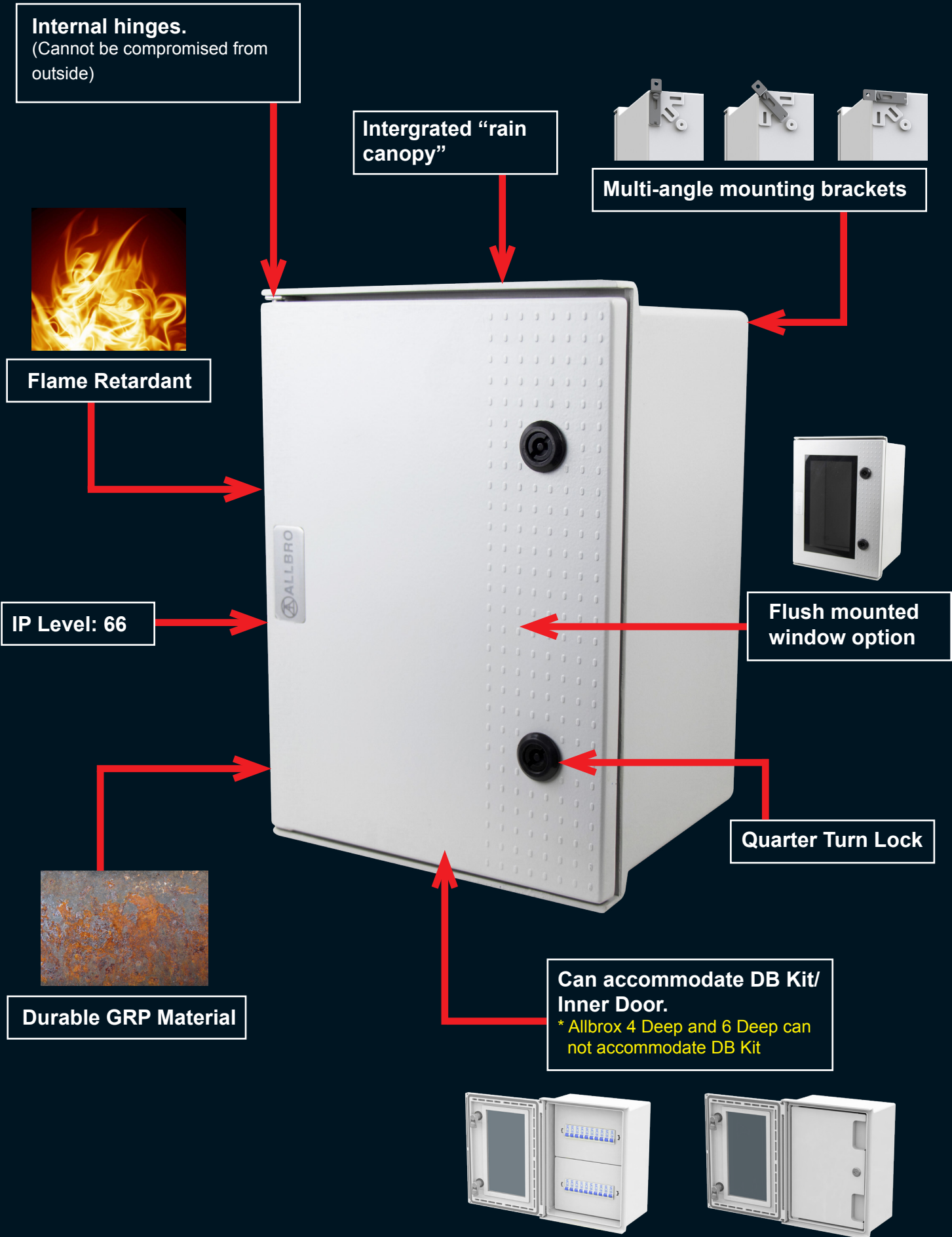


Security Level	1	2	3	4
----------------	---	---	---	---

Limited Access - Lockable/Vandal Resistant/Remote Access control/Monitoring

Example:

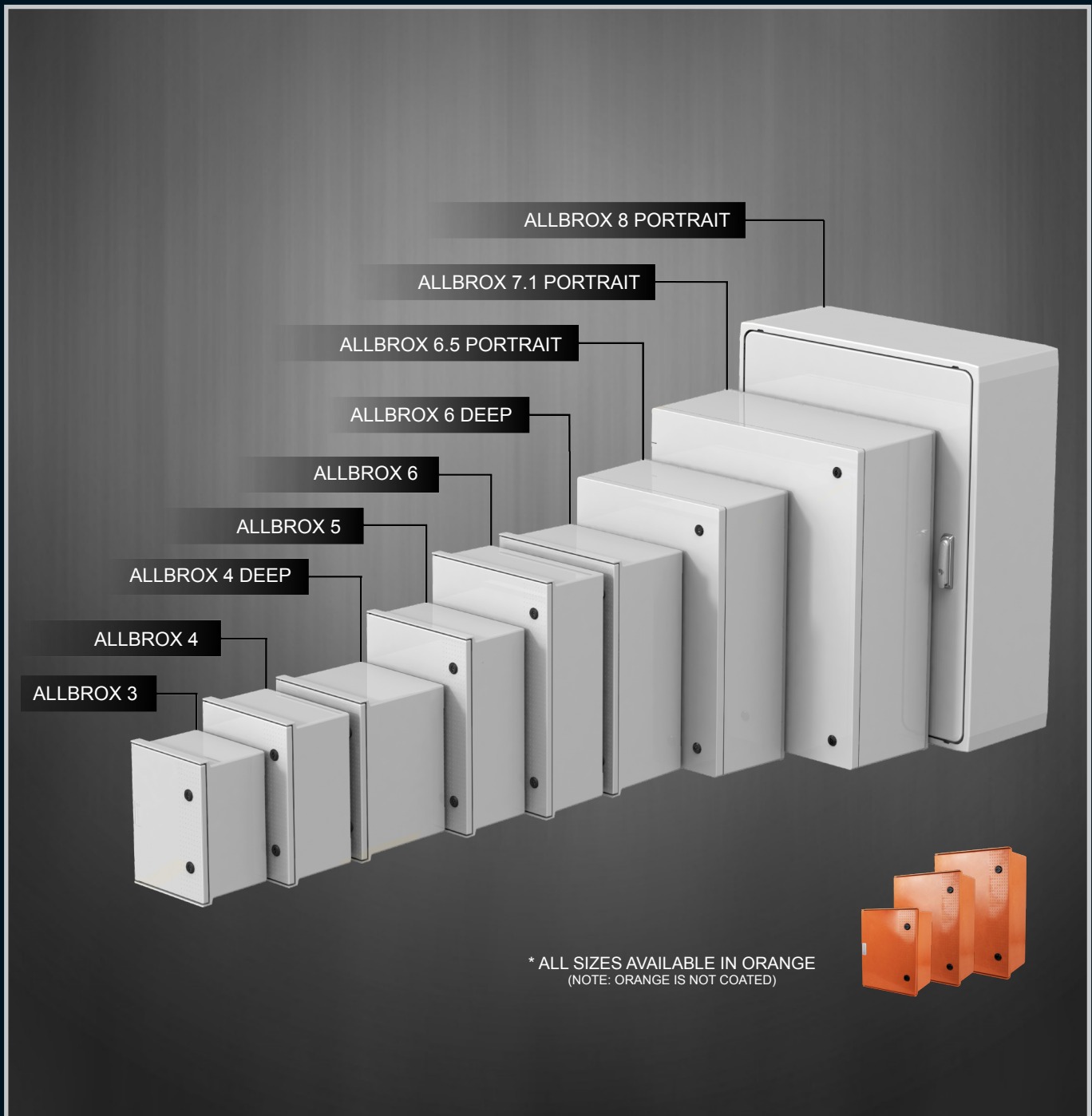




Material	SMC (Sheet Moulding Compound), PC for window			
Operating Temperature	-50° C to + 200° C			
Glow Wire Capability / Flammability	960° / UL94 V0			
Expected UV Life (Direct Exposure)	25 years +			
IP Level	IP66			
IK Level	IK10			
Security Level	1	2	3	4

### \* PLEASE NOTE:

- Allbrox® is not suitable to install on back (Face Up)
- Allbrox® 3-6D must be installed in portrait orientation ONLY.

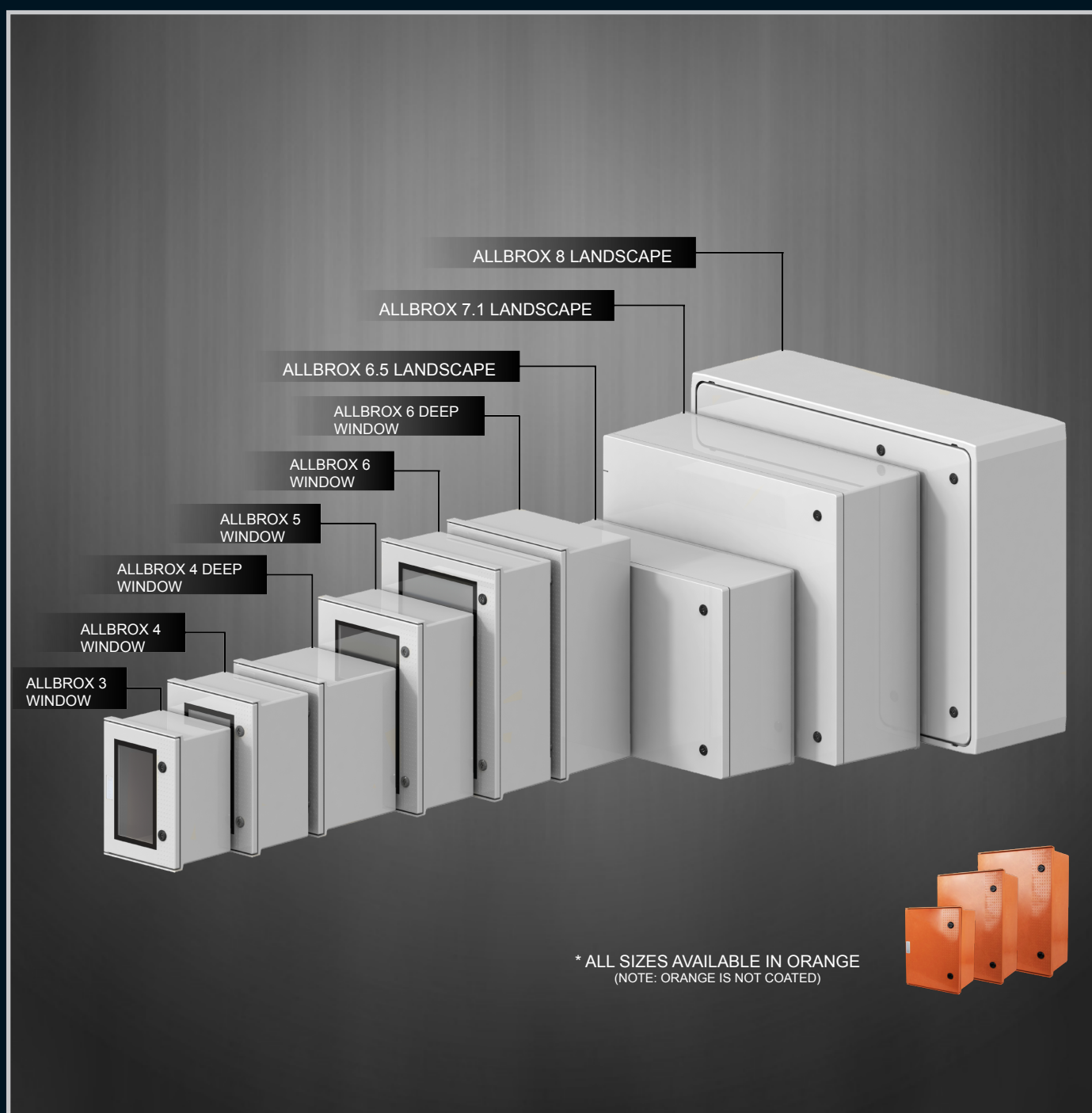


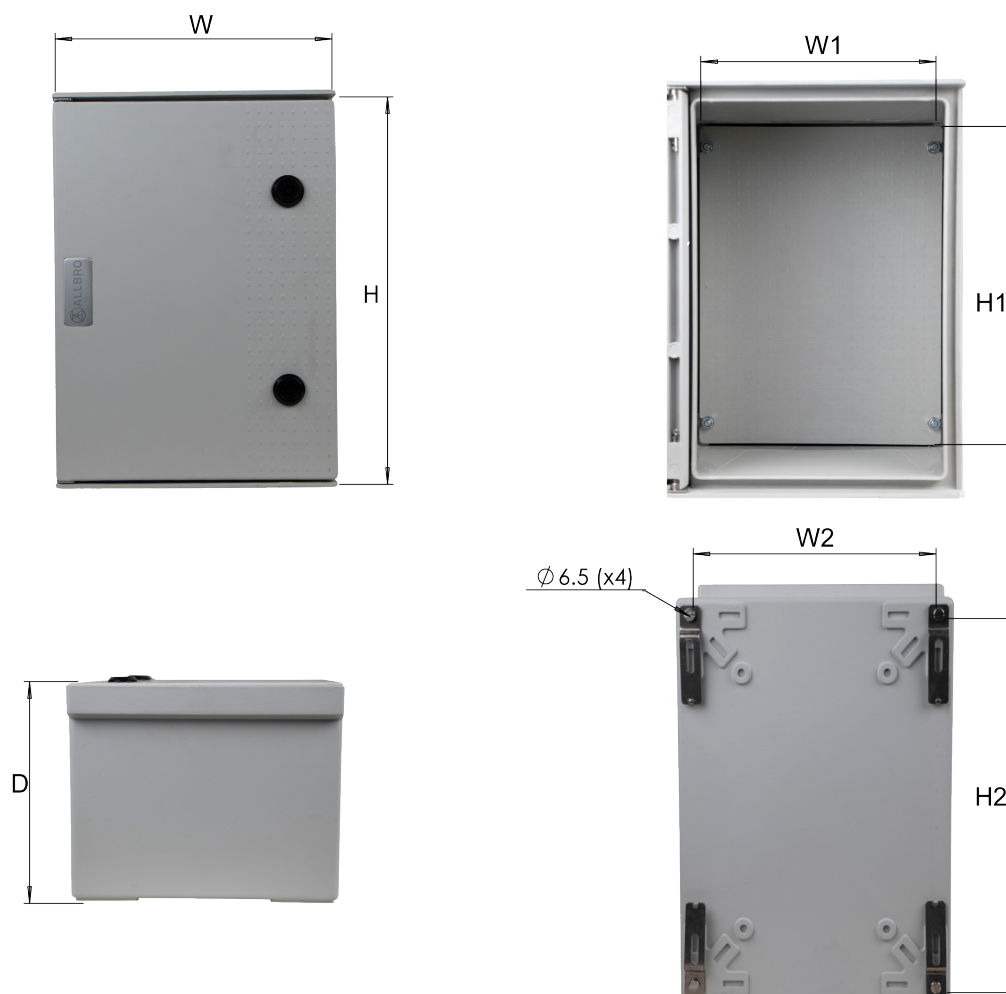


Material	SMC (Sheet Moulding Compound), PC for window			
Operating Temperature	-50° C to + 200° C			
Glow Wire Capability / Flammability	960° / UL94 V0			
Expected UV Life (Direct Exposure)	25 years +			
IP Level	IP66			
IK Level	IK10			
Security Level	1	2	3	4

### \* PLEASE NOTE:

- Allbrox® is not suitable to install on back (Face Up)
- Allbrox® 3-6D must be installed in portrait orientation ONLY.

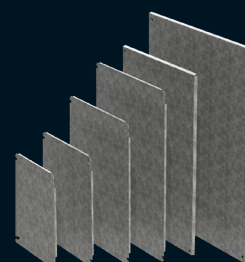




Part Number (Grey)	Part Number (Orange)	Description	H (mm)	W (mm)	D (mm)	W1 (mm)	H1 (mm)
ALL-003	ALL-003/O	Allbrox 3 with SMC Device plate	350	250	200	212	317
ALL-004	ALL-004/O	Allbrox 4 with SMC Device plate	400	300	200	262	364
ALL-004/D	ALL-004/D/O	Allbrox 4 Deep with SMC Device plate	400	300	273	262	364
ALL-005	ALL-005/O	Allbrox 5 with SMC Device plate	500	350	200	312	467
ALL-006	ALL-006/O	Allbrox 6 with SMC Device plate	600	400	200	362	567
ALL-006/D	ALL-006/D/O	Allbrox 6 Deep with SMC Device plate	600	400	250	362	567
ALL-006_5-L	ALL-006_5-L/O	Allbrox 6.5 Landscape with SMC Device plate	500	700	246	619	419
ALL-006_5-P	ALL-006_5-P/O	Allbrox 6.5 Portrait with SMC Device plate	700	500	246	419	619
ALL-007_1-P	ALL-007_1-P/O	Allbrox 7.1 Portrait with SMC Device plate	828	710	287	634	754
ALL-007_1-L	ALL-007_1-L/O	Allbrox 7.1 Landscape with SMC Device plate	710	828	287	754	634
ALL-008-P	ALL-008-P/O	Allbrox 8 Portrait with SMC Device plate	1000	800	320	710	910
ALL-008-L	ALL-008-L/O	Allbrox 8 Landscape SMC Device plate	800	1000	320	910	710

### Allbrox Galvanised Steel Device Plate

Part Number	Description	H (mm)	W (mm)	Thickness
ALL-M/SMPLATE-3	ALL Mounting Steel Plate No.3	311	238	1.6
ALL-M/SMPLATE-4	ALL Mounting Steel Plate No.4	361	288	1.6
ALL-M/SMPLATE-5	ALL Mounting Steel Plate No.5	461	338	1.6
ALL-M/SMPLATE-6	ALL Mounting Steel Plate No.6	554	380	1.6
ALL-M/SMPLATE-6_5	ALL Mounting Steel Plate No.6_5	590,7	390,7	2
ALL-M/SMPLATE-7	ALL Mounting Steel Plate No.7	605	532,7	2



ALLBROX® 4-6

Distribution Board Kit



Allbrox® Distribution Board Kit

Part Number	Description	No. of Rows	MCB's Per Row	No. of Neutral Bars	No. of Earth Bars
ALL-004/DBK-A	Allbrox 4 Distribution Board Kit Assembled	2	10	2x (14 way)	2x (12 way)
ALL-005/DBK-A	Allbrox 5 Distribution Board Kit Assembled	3	13	4x (14 way)	4x (12 way)
ALL-006/DBK-A	Allbrox 6 Distribution Board Kit Assembled	4	15	5x (15 way)	2x (18 way) + 2x (12 way)

Allbrox® Distribution Board Kit  
Assembly

1) Remove device plate from the base. Leave the 4 x M6 nuts in place for fixing the mounting rails in place. Fit mounting rails (A) as shown using the 4 x M6 x 12 CH EG screws and M6 washers. Ensure that the bigger space between the hole and end of the mounting rail is fitted toward the hinge side of the box

2) Fit the steel side plates with the plastic supports (B) onto the mounting rails (A) using the 4 x M6 x 12CH EG screws and M6 washers as shown.

3) Fit the steel din rails (C), for breakers, into the plastic supports using 2 x 3.5 x 12 Panpozi thread cutter screws on each end as shown. Fit the steel din rail, for neutral bar, upside down using 2 x 8 x 9.5 thread cutter screws on each end as shown.

3.5 x 12 Panpozi thread cutter screws

8 x 9.5 Panpozi thread cutter screws

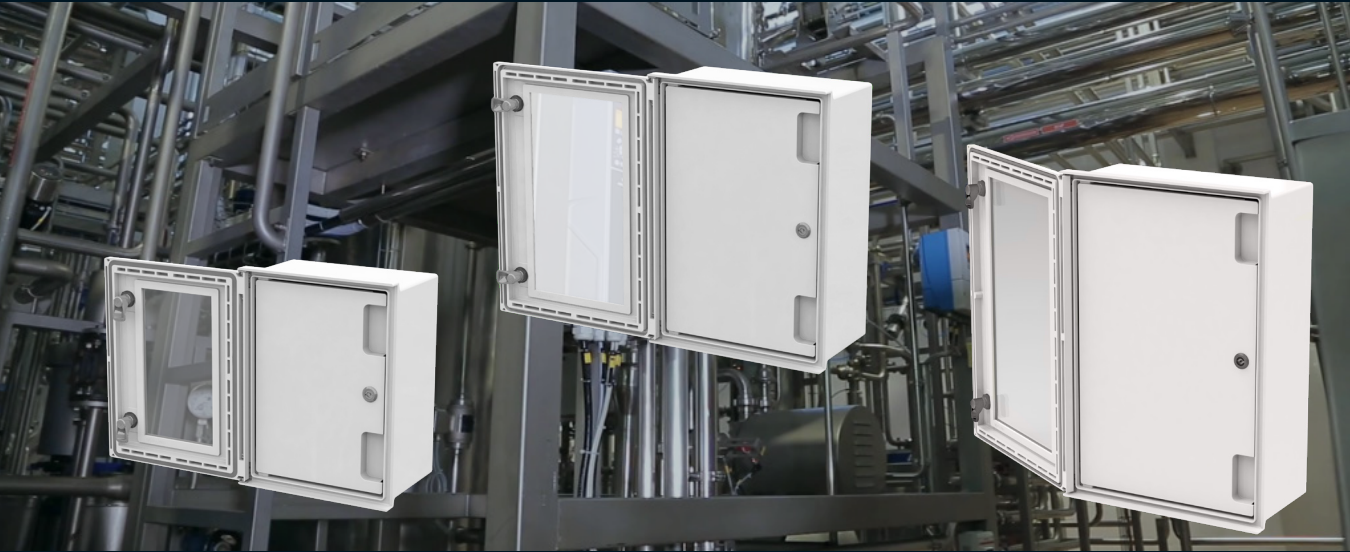
4) Clip the plastic Fascia plates (D) into the plastic supports as shown.

Product	No. Fascia Plates
ALLBROX 4	2
ALLBROX 5	3
ALLBROX 6	4



ALLBROX® 4-6

Inner Doors



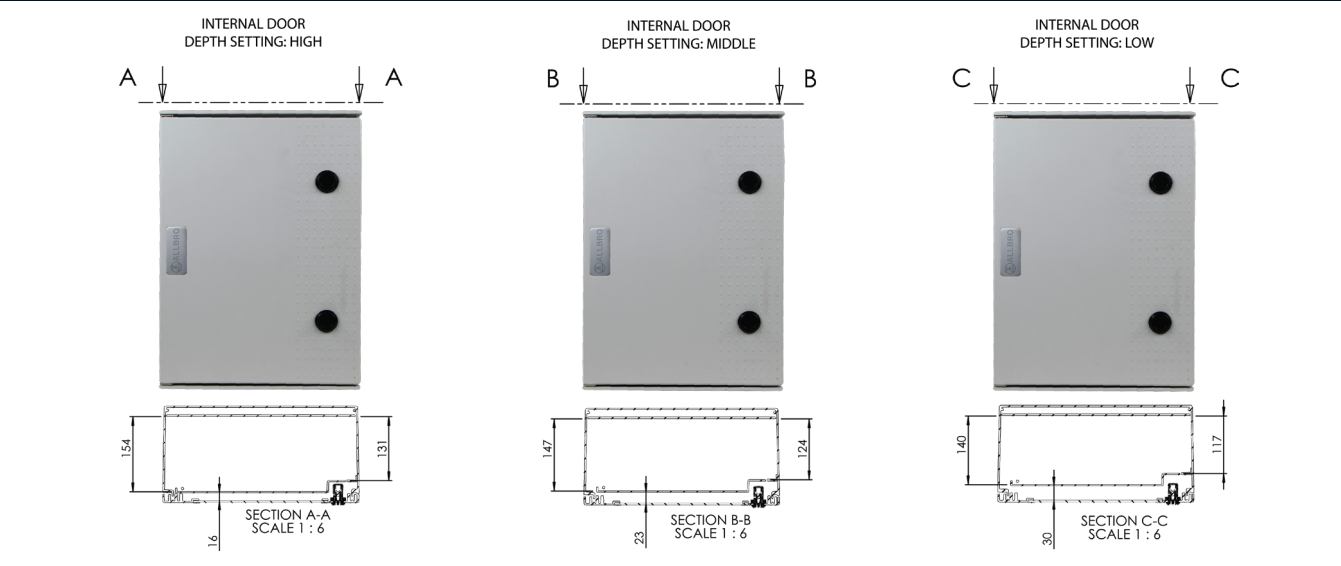
Allbrox® Inner Door

Part Number	Description
ALL-004/IN/DOOR	Allbrox 4 Inner Door
ALL-005/IN/DOOR	Allbrox 5 Inner Door
ALL-006/IN/DOOR	Allbrox 6 Inner Door

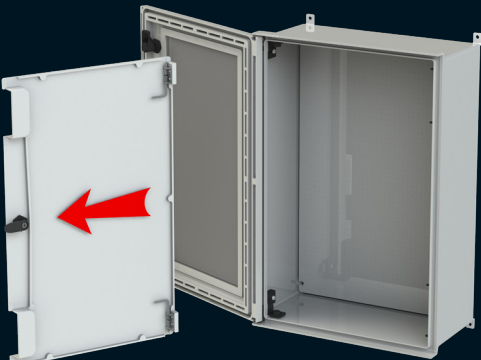
Allbrox® with PC Window

Part Number	Description
ALL-003/CLEARPC	Allbrox 3 with clear Polycarbonate window
ALL-004/CLEARPC	Allbrox 4 with clear Polycarbonate window
ALL-005/CLEARPC	Allbrox 5 with clear Polycarbonate window
ALL-006/CLEARPC	Allbrox 6 with clear Polycarbonate window

Allbrox® Inner Door Fitting Options



1) To remove or place the inner door in an Allbrox® simply pull the two hinge pins as indicated towards each other.

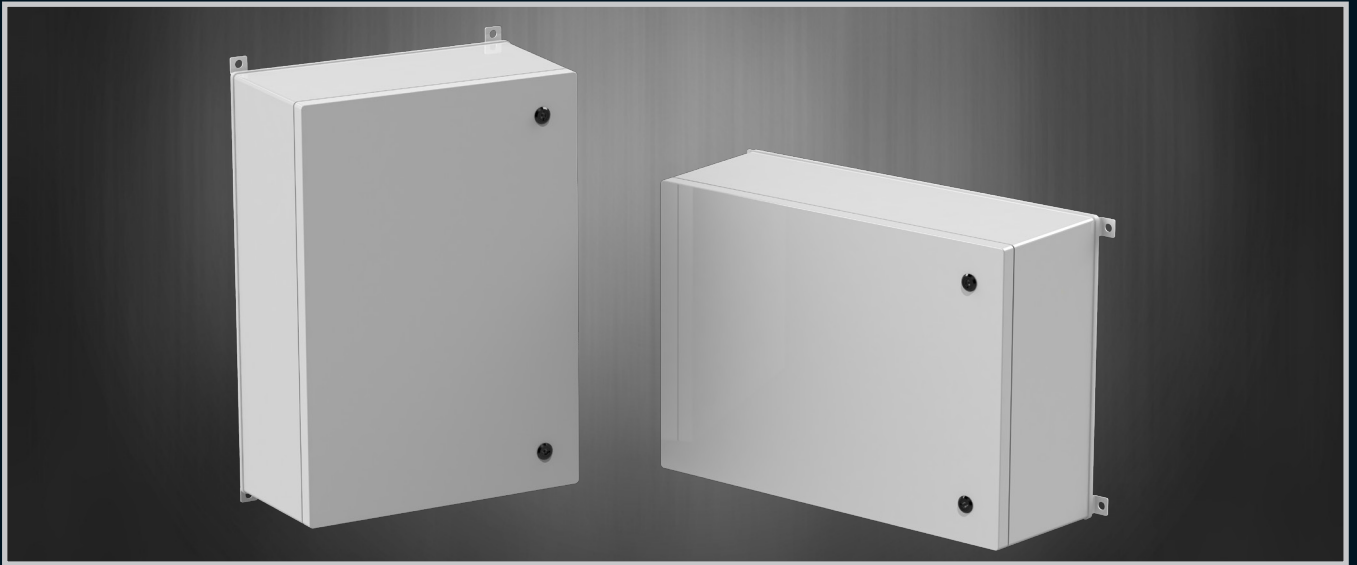


2.1) To remove the door, complete step 1 and pull the inner door towards yourself.

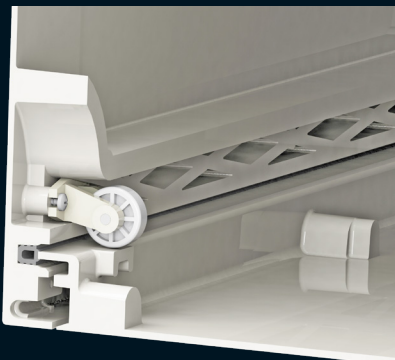
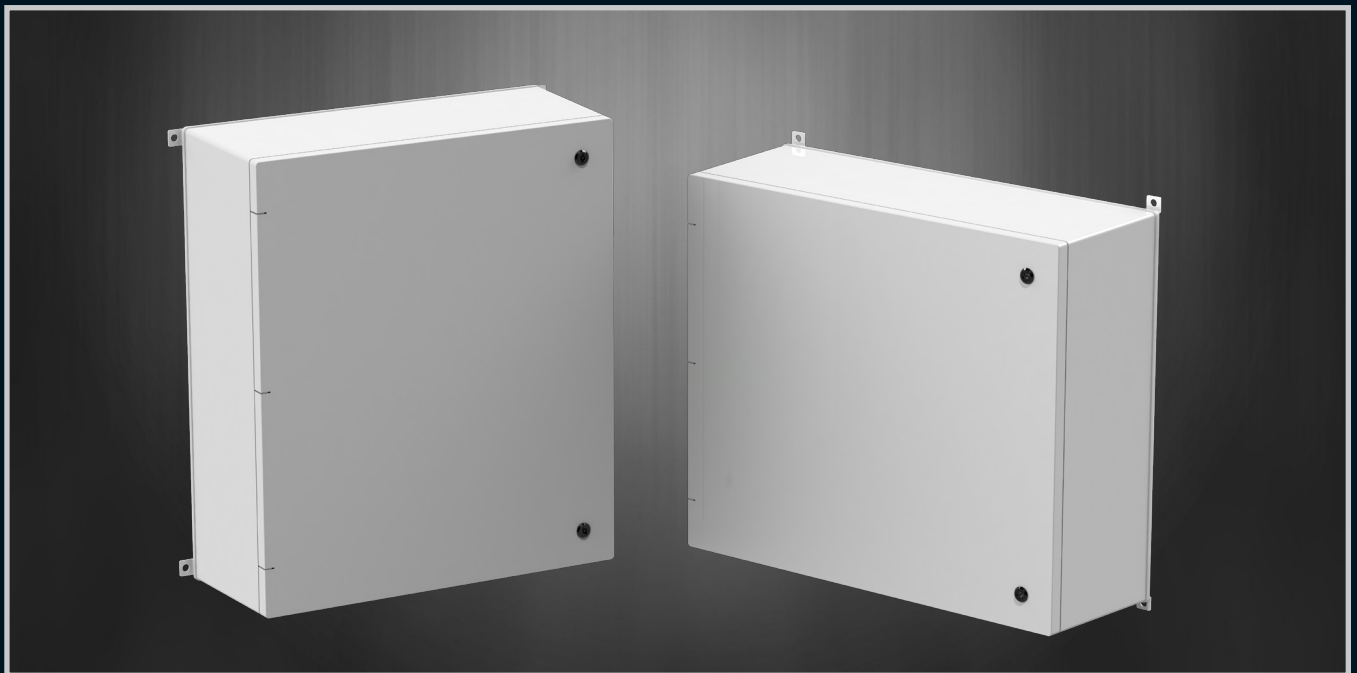
2.2) To place the inner door into the Allbrox® complete step 1 and let the hinge pins go once the pins are in-line with the hinge sleeve.

\* Please note that the construction of the 6.5 and 7.1 sizes differs from the smaller sizes (3-6D)

### ALLBROX® 6.5



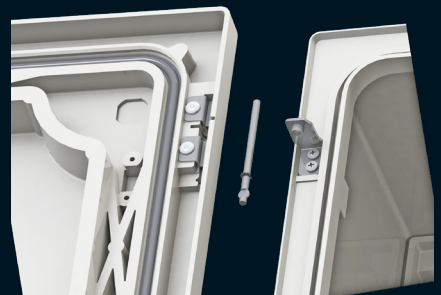
### ALLBROX® 7.1



Door locator



Extra strength lid



Easily Removable door







# Enlec® Features

Polycarbonate enclosures for electronic & electrical applications



**Mounting does NOT affect IP level**  
(Many enclosures require drilling which compromises IP level)

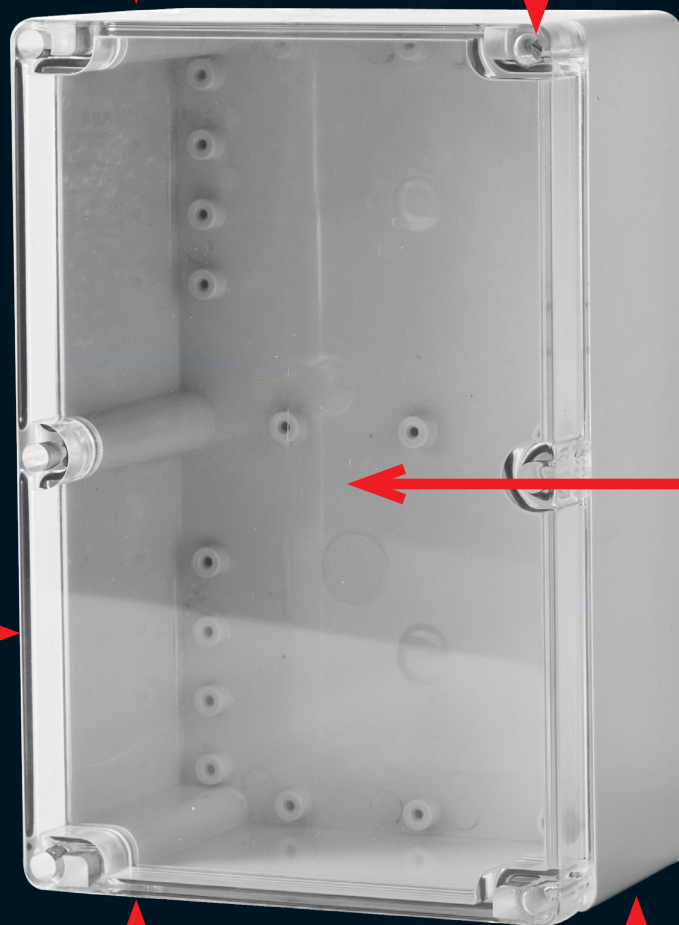


**1/4 Turn Stainless steel screws**

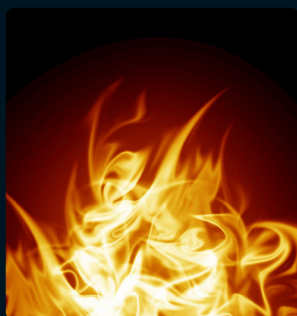
(Self tapping screws that deteriorate the plastic or plastic screws they mount for which are not durable)



**18 Different sizes**  
(Widest range in South Africa)



**Clean surface for mounting equipment or labels unlike other plastic enclosures that have unsightly spew/injection marks**

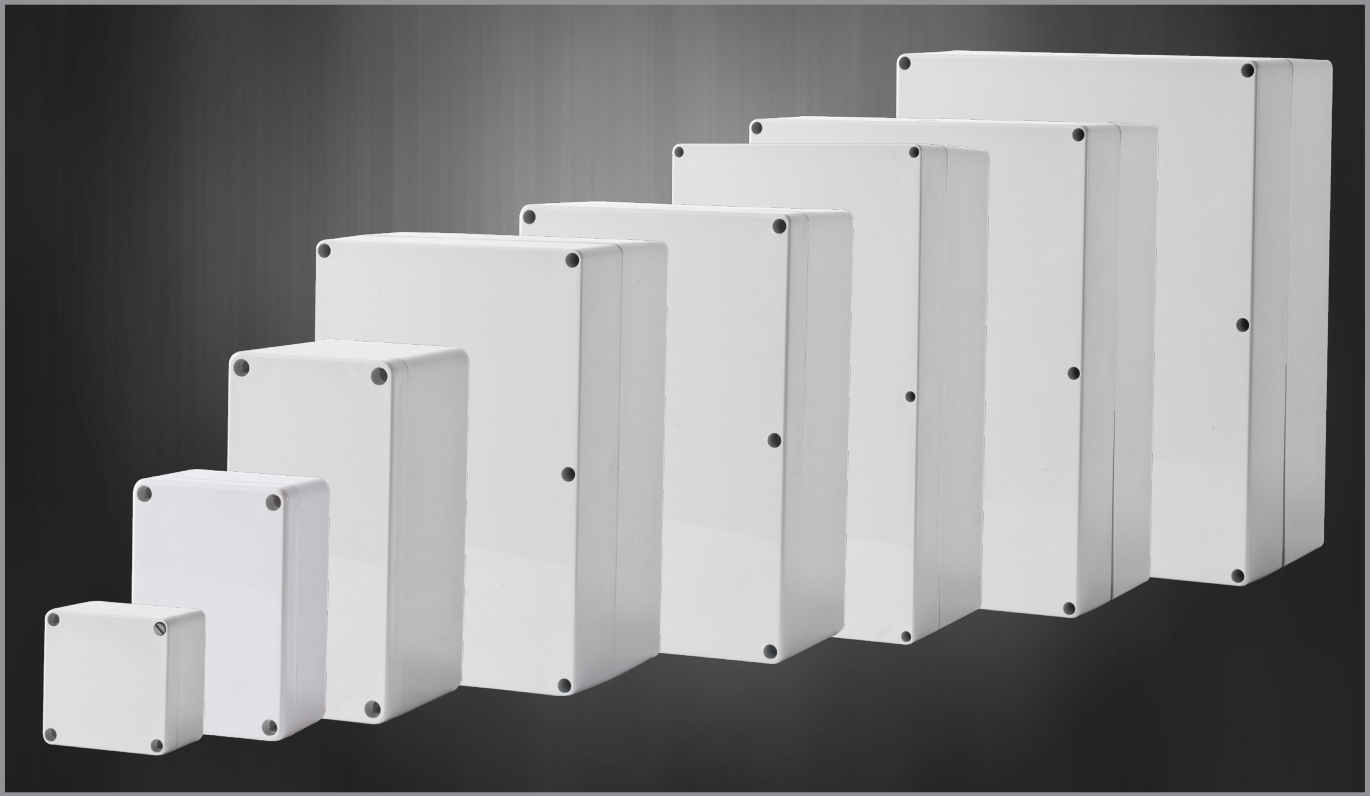


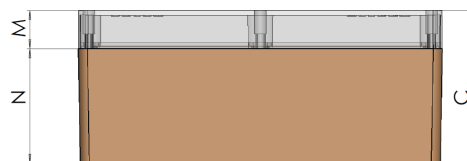
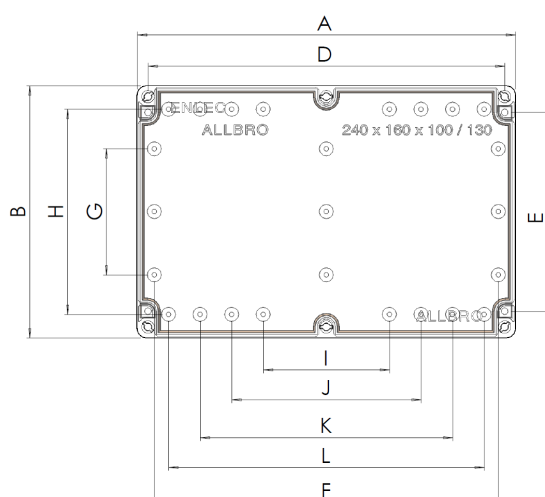
**Flame Retardant High Quality Polycarbonate Material**  
(Base & Lid)  
See UL 94 (V0) and Needle Flame (V0) on page 10

**Halogen Free**

**Halogen Free**

Material	Polycarbonate			
Operating Temperature	- 20°C to + 110°C			
Glow Wire Capability / Flammability	960° / UL94 V0			
Expected UV Life (Direct Exposure)	5-8 years (10-15 years - Indirect Exposure)			
IP Level	IP66			
IK Level	IK10			
Security Level	1	2	3	4





External Dimensions (mm)			Internal Dimensions (mm)											Part Number		
A (Height)	B (Width)	C (Depth)	D	E	F	G	H	I	J	K	L	M	N	Clear Lid IP66	Grey Lid IP66	Device Plate Sold Separately
80	80	55	68	50	58	N/A	58	N/A	N/A	N/A	40	15	40	ENL080806C	ENL080806P	ENL0808DP
120	70	50	89	57	74	N/A	46	NA	N/A	N/A	52	15	35	ENL120705C	ENL120705P	N/A
120	80	55	106	46	96	N/A	58	N/A	N/A	40	80	15	40	ENL120806C	ENL120806P	ENL1208DP
120	80	90	106	46	96	N/A	58	N/A	N/A	40	80	15	75	ENL120809C	ENL120809P	ENL1208DP
120	120	55	106	86	100	40	98	N/A	N/A	N/A	80	15	40	ENL121206C	ENL121206P	ENL1212DP
120	120	90	106	86	100	40	98	N/A	N/A	N/A	80	15	75	ENL121209C	ENL121209P	ENL1212DP
160	80	55	146	46	136	N/A	58	N/A	N/A	60	120	15	40	ENL160806C	ENL160806P	ENL1608DP
160	80	90	146	46	136	N/A	58	N/A	N/A	60	120	15	75	ENL160809C	ENL160809P	ENL1608DP
160	120	90	146	86	136	N/A	90	N/A	N/A	N/A	120	15	75	ENL161209C	ENL161209P	ENL1612DP
160	160	90	146	126	140	80	130	N/A	N/A	N/A	120	15	75	ENL161609C	ENL161609P	ENL1616DP
200	120	90	186	86	176	40	90	N/A	N/A	116	160	15	75	ENL201209C	ENL201209P	ENL2012DP
200	150	90	186	116	N/A	56	118	N/A	N/A	80	160	15	75	ENL201509C	ENL201509P	ENL2015DP
240	120	100	226	86	218	40	90	80	120	160	200	25	75	ENL241210C	ENL241210P	ENL2412DP
240	160	100	226	126	218	80	130	80	120	160	200	25	75	ENL241610C	ENL241610P	ENL2416DP
240	160	130	226	126	218	80	130	80	120	160	200	55	75	ENL241613C	ENL241613P	ENL2416DP
300	230	100	286	196	278	150	200	140	180	220	260	25	75	ENL302310C	ENL302310P	ENL3023DP
300	230	130	286	196	278	150	200	140	180	220	260	55	75	ENL302313C	ENL302313P	ENL3023DP
360	200	150	346	166	338	120	170	200	240	280	320	50	100	ENL362015C	ENL362015P	ENL3620DP

Part Number	Description
ENL-H	ENL-Hinges
ENL-M	ENL-Mounting Feet
ENL-4	ENL-2 Set 4 Screw Combo
ENL-6	ENL-6 Set Screw Combo



Hinges



Screw Set



Mounting Feet

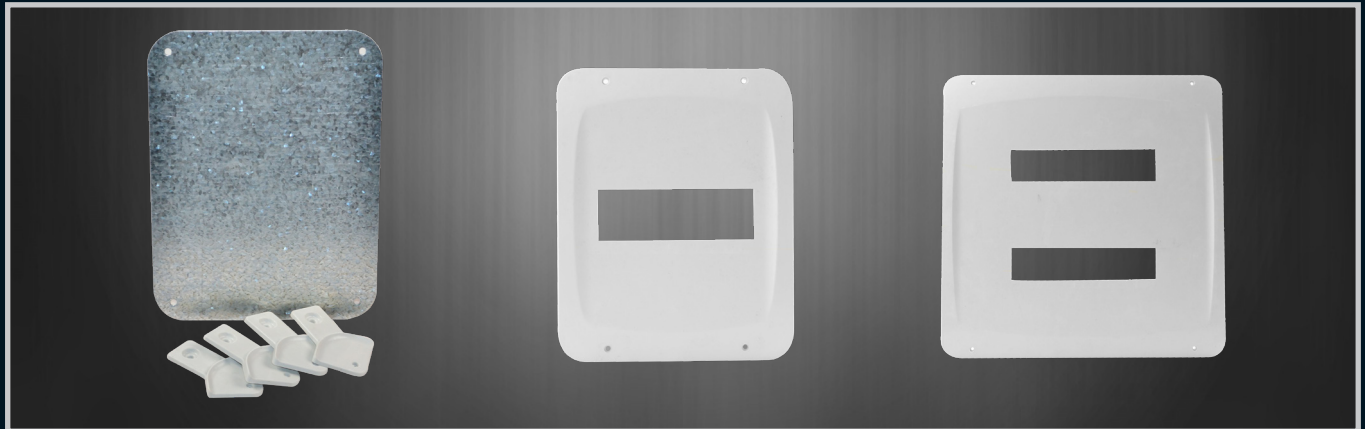




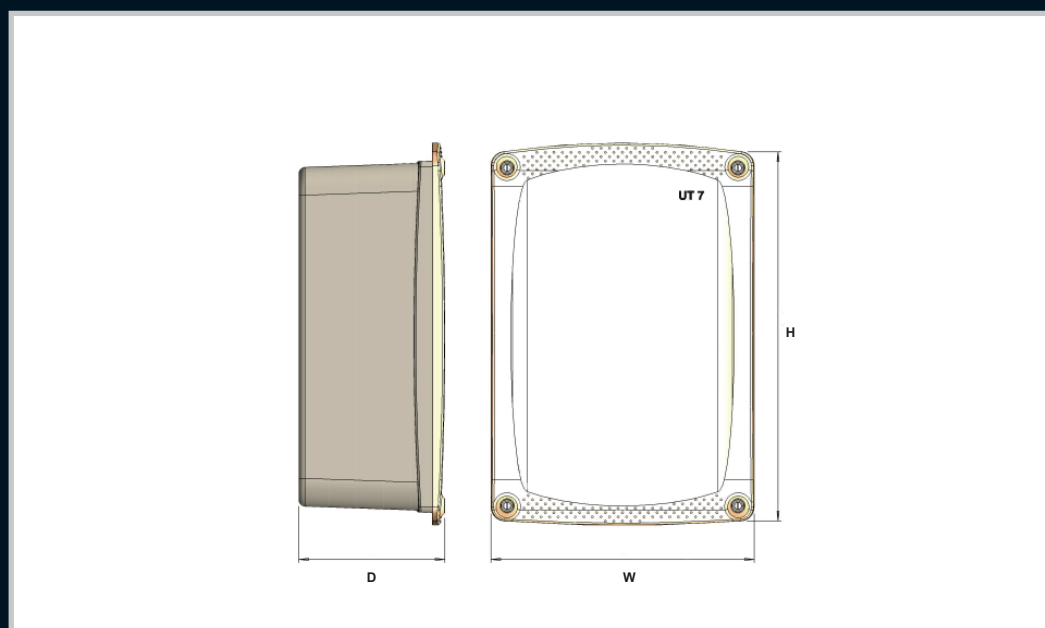
Material	DMC (Dough Moulding Compound)			
Operating Temperature	-50° C to + 200° C			
Glow Wire Capability / Flammability	960° / UL94 V0			
Expected UV Life (Direct Exposure)	25 years +			
IP Level	IP54 for slide lid application, IP65 for screw lid application			
IK Level	IK8			
Security Level	1	2	3	4



Note: Why slide lid? No gasket is used, so less chance of deterioration over extended use. Lifespan of IP level is increased.



Part Number	Description
UT-MF	UT Mounting Feet
UT4-DIN	UT4 Shroud Kit
UT4-SAM	UT4 Shroud 6 Way Samite
UT6-DIN	UT6 Shroud 8 Way Din
UT6-SAM	UT6 Shroud 11 Way Samite
UT10-DIN	UT10 Shroud 24 Way Din
UT10-SAM	UT10 Shroud 32 Way Samite



	Internal Dimensions (mm)			External Dimensions (mm)			Screw Lid IP65	Slide Lid IP54	Qty per box	Device Plate Sold Separately
	H1	W1	D1	H	W	D	Part Number	Part Number		Part Number
UT1	80	80	60	122	110	70	040-751	040-752	10	DEV-UT1
UT2	110	110	90	155	144	100	040-655	040-714	9	DEV-UT2
UT3	160	110	90	204	144	100	040-670	040-715	8	DEV-UT3
UT4	210	160	90	253	194	100	040-656	040-716	8	DEV-UT4
UT4 -D	211	160	180	253	194	186	040-753	040-761	6	DEV-UT4
UT5	210	210	125	257	246	136	040-657	040-717	6	DEV-UT5
UT6	260	210	125	307	246	136	040-658	040-718	4	DEV-UT6
UT7	310	210	125	357	246	136	040-671	040-719	4	DEV-UT7
UT8	310	260	165	359	298	176	040-672	040-720	2	DEV-UT8
UT9	310	310	165	359	348	176	040-673	040-721	2	DEV-UT9
UT10	410	410	165	459	448	176	040-674	040-722	2	DEV-UT10





**Weather & UV Resistant**  
(25 Year outdoor life)

**Halogen Free**

**Halogen Free**



**Flame Retardant**



**Durable GRP Material**



**17 Different sizes**



**Versions Available**

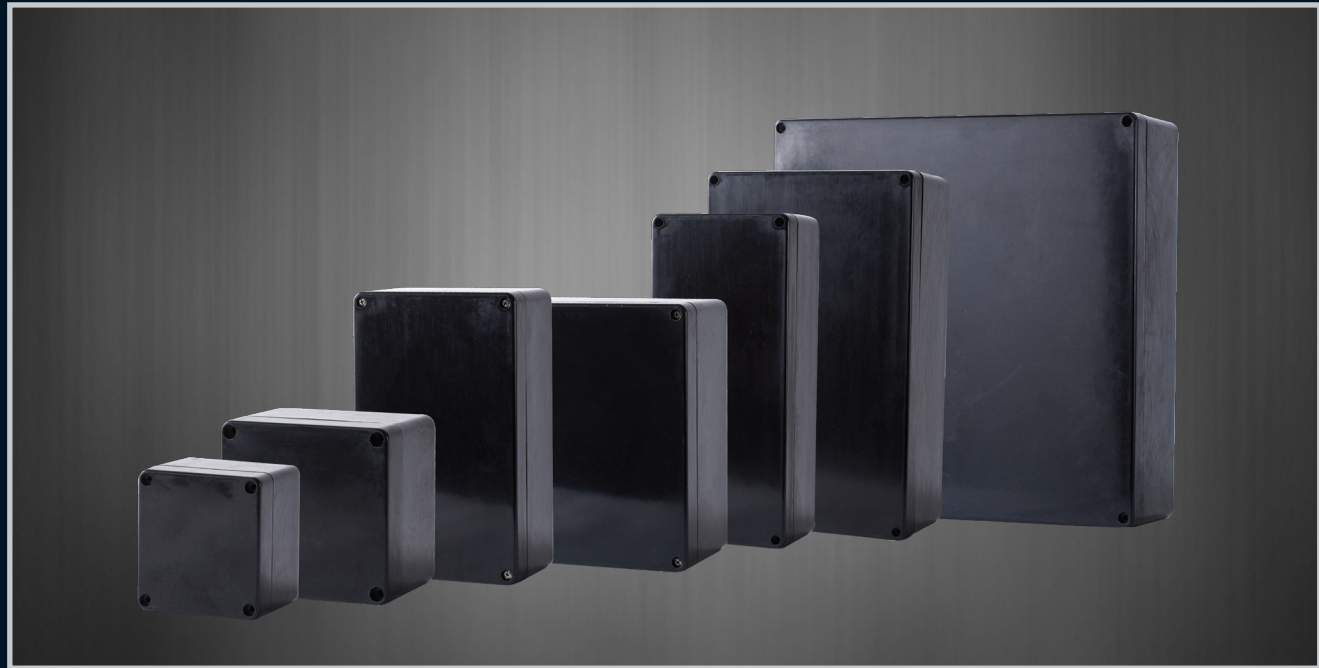
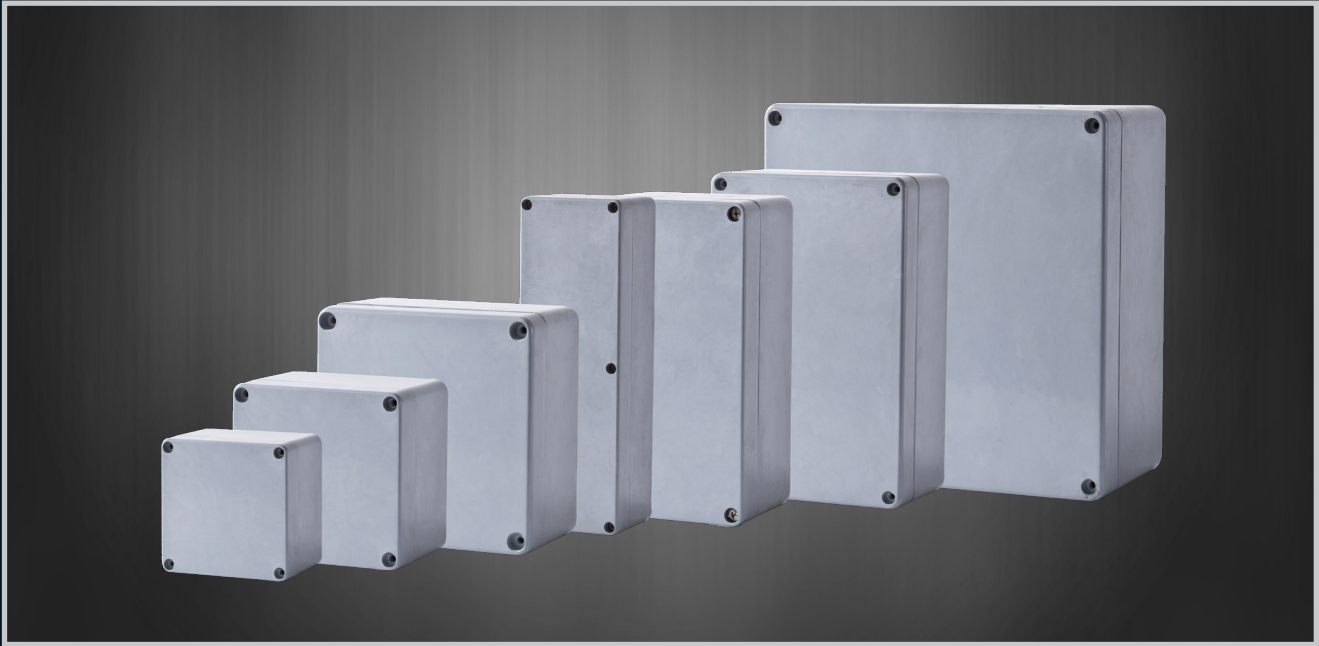


Terminal Boxes

High impact enclosures for tough environments



Material	DMC (Dough Moulding Compound)
Operating Temperature	-50° C to + 200° C
Glow Wire Capability / Flammability	960° / UL94 V0
Expected UV Life (Direct Exposure)	25 years +
IP Level	IP68
IK Level	IK9
Security Level	Security Level 1 for Round Enclosure and Security Level 2 for Square/Rectangle Enclosure



## UB40 & UB41 Enclosure



External Dimensions (mm)			Internal Dimensions (mm)			Part Number	Description	IP Level	Qty per box
H	W	D	H	W	D				
115	115	83	90	90	70	040-702	UB40 (20mm)	68	20
140	140	90	124	124	78	040-793	UB41 (25mm)	68	20
115	115	83	90	90	70	040-702/TERM	UB40 (20mm) with terminals	68	20
140	140	90	124	124	78	040-793/TERM	UB41 (25mm) with terminals	68	20

## UB40 Bottom Entry Enclosure

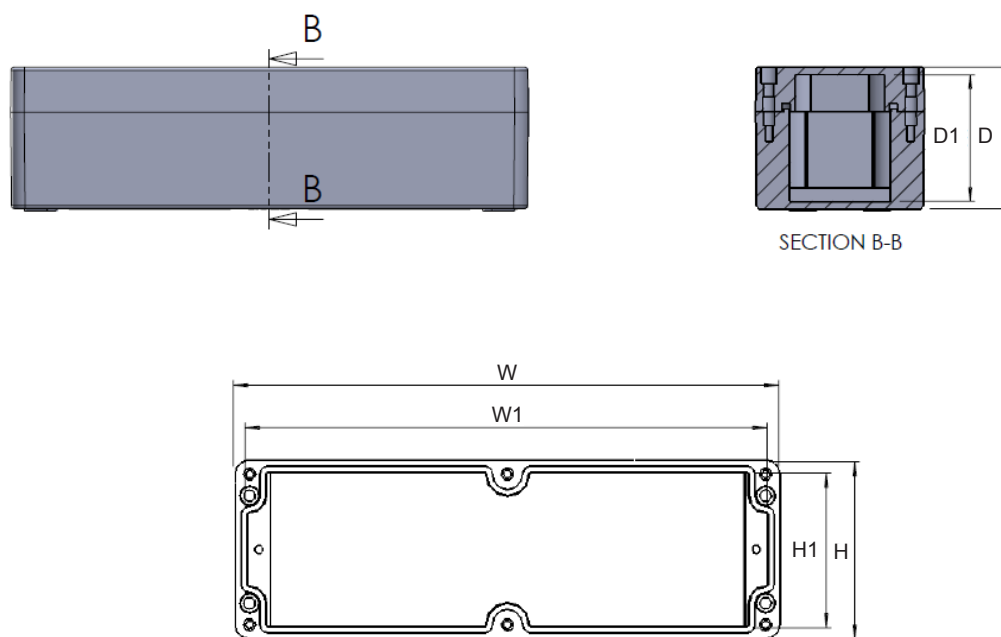


External Dimensions (mm)			Internal Dimensions (mm)			Part Number	Description	IP Level	Qty per box
H	W	D	H	W	D				
108	140	110	65	90	90	040-702/BE	UB40 Bottom Entry (20mm)	68	20
108	140	110	65	90	90	040-702/BE/TERM	Junction Box UB40/A1/20 (Bottom Entry) complete with Terminals	68	20

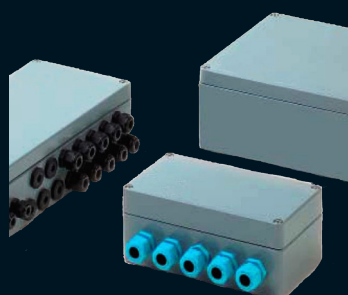
### BENEFITS & FEATURES

- For general industrial and mining electrical installations.
- No exposed metal parts.
- Dust and waterproof IP68.
- No drilling or tapping of cable entries required.
- Internal earthing to all entries and rail provided.





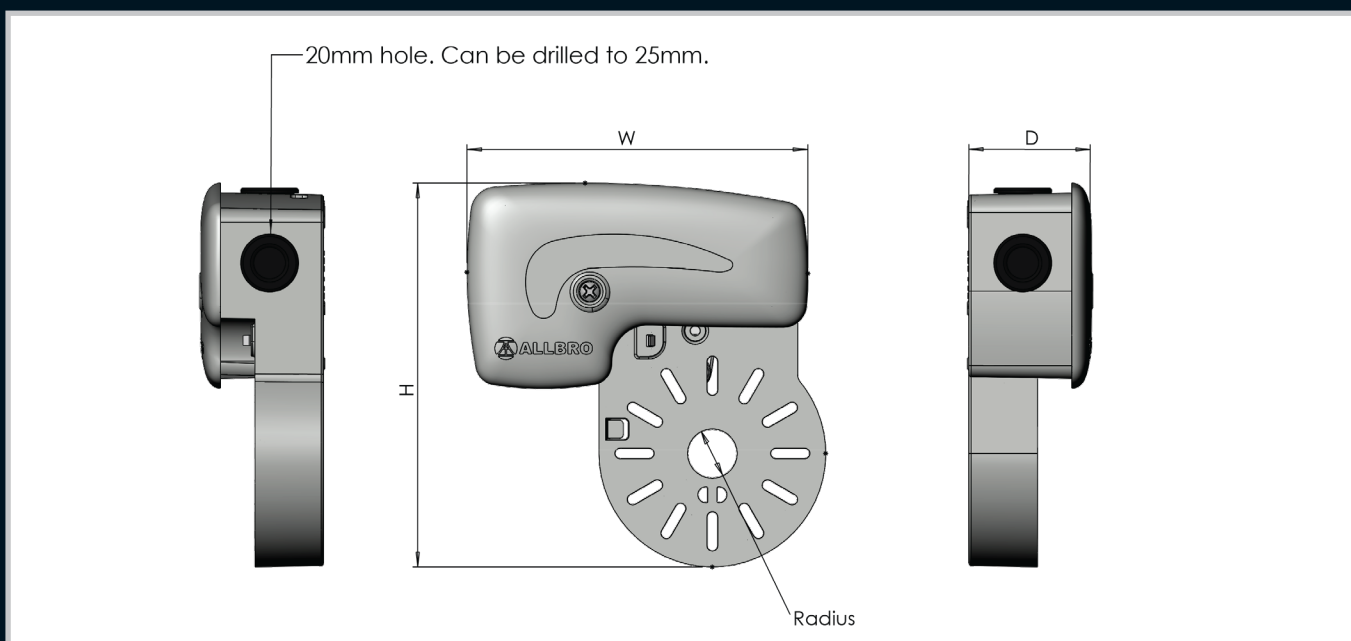
External Dimensions (mm)			Internal Dimensions (mm)			Part Number		IP Level	Qty per box
H	W	D	H1	W1	D1	Black (Eex)	Grey		
75	80	61	65	70	56	0808KE/I	0808POK/I	68	10
75	110	64	65	100	54	0811KE/I	0811POK/I	68	10
75	160	61	65	150	54	0816KE/I	0816POK/I	68	10
75	190	61	65	180	54	0819KE/I	0819POK/I	68	10
75	230	63	65	220	54	0823KE/I	0823POK/I	68	10
120	125	90	110	115	80	1212KE/I	1212POK/I	68	10
120	220	95	110	210	85	1222KE/I	1222POK/I	68	10
160	160	95	147	147	86	1616KE/I	1616POK/I	68	10
160	260	95	146	246	86	1626KE/I	1626POK/I	68	10
160	360	95	146	346	86	1636KE/I	1636POK/I	68	10
160	560	95	146	550	86	1656KE/I	1656POK/I	68	10
250	255	128	237	242	113	2526KE/I	2526POK/I	68	10
250	400	128	237	387	113	2540KE/I	2540POK/I	68	10
250	600	128	237	587	121	2560KE/I	2560POK/I	68	10
410	400	128	387	397	113	4140KE/I	4140POK/I	68	10
250	255	163	237	242	149	2526KE/DI	2526POK/DI	68	10
250	400	163	237	387	149	2540KE/DI	2540POK/DI	68	10



\* Versions Available

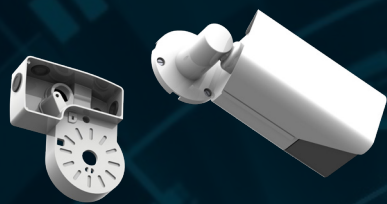
Material	DMC (Dough Moulding Compound)			
Operating Temperature	-50° C to + 200° C			
Glow Wire Capability / Flammability	960° / UL94 V0			
Expected UV Life (Direct Exposure)	25 years +			
IP Level	IP66			
Security Level	1	2	3	4

Allbro has launched the very first camera enclosure of its kind. Designed and made in South Africa the Camera-Nest addresses the unique challenges of this application in a manner that has never been done before. Once one lays eyes upon Allbro's new "Camera Nest" it becomes difficult to even call the new invention a camera box.



Part Number	Description	H (mm)	W (mm)	D (mm)	Radius (mm)
040-958	Camera-Nest Complete 90mm	156	139	51	20
040-977	Camera-Nest Complete 110mm	174	139	51	53.3

## INSTALLATION:



**Step 1:** Mount the camera on the Camera-Nest™ whilst safely on the ground

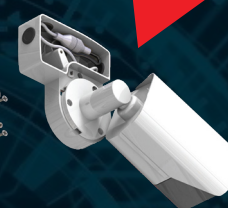


**Step 2:** Mount bracket on the wall.  
(NB 6mm Screw/Plug Not Included)

NOTE: RECOMMENDED TORQUE FOR LID & MOUNTING BRACKET SCREWS - 1,5Nm --> 2,5Nm



**Step 4:** Connect camera wires and close the unit with the cap. The Camera nest is IP 66 and has a UV Life of 25 years



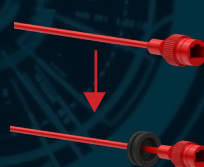
**Step 3:** Hook unit on the bracket and test/adjust the camera with a tester. All Connections accessible remain.

### Step 1 continued:

① Place camera onto the Camera-Nest™. Pull the camera cables through the hole in the middle of the base.



② Place Allbro stretch grommet over the camera fitting.



Allbro grommet stretches over most camera fittings

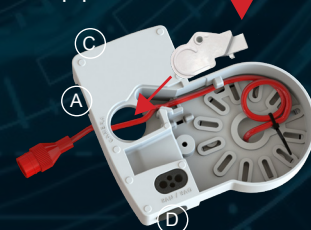
③ Cable tie the cable (A) and feed the rest of the fitting through opening (B).



④ Place grommet back to secure cable in place and protect the cabling from water seeping in.



⑤ Close the opening in STEP 3 with cap provided.



### ⚠ Please Note:

\* Outer blank plugs (A, B & C) can be removed where applicable for cable glands or conduit fittings.

These blanks are NOT intended for use as cable grommets.



Diameter size up to 90mm

Diameter size up to 110mm

**CAMERA-NEST™ IS AVAILABLE IN TWO SIZES**

Designed to accommodate most camera brands & sizes!



# ADB - Distribution Boards

\* Available in Q2 2020



Material	DMC (Dough Moulding Compound)
Operating Temperature	-50° C to + 200° C
Glow Wire Capability / Flammability	960° / UL94 V0
Expected UV Life (Direct Exposure)	GRP Flap 25 years + , Plastic Flap
IP Level	IP4X
Security Level	Level 1 without pad-lock and Level 3 with pad-lock

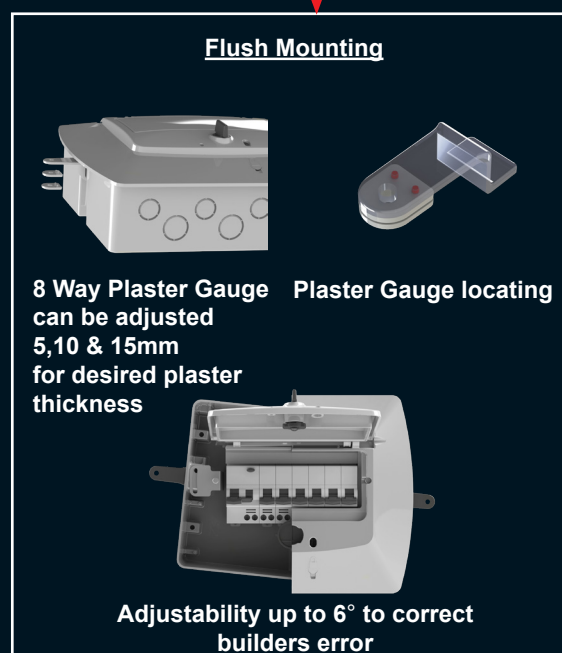
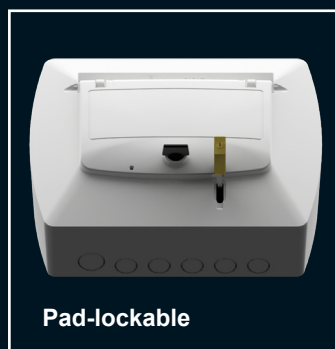
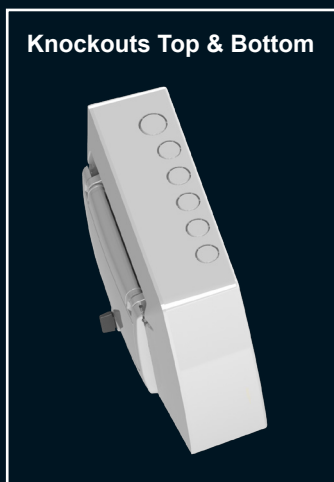


Part Number	Description	H (mm)	W (mm)	D (mm)
040-964	4 Way Surface ADB GRP	187	165	110
040-979	4 Way Surface ADB PC	187	165	110
040-965	8 Way Surface ADB GRP	216	266	111
040-981	8 Way Flush ADB GRP	216	266	111
040-979	8 Way Surface ADB PC	216	266	111
040-968	8 Way Flush ADB PC	216	266	111
040-974	12 Way Flush ADB PC	254	378	113

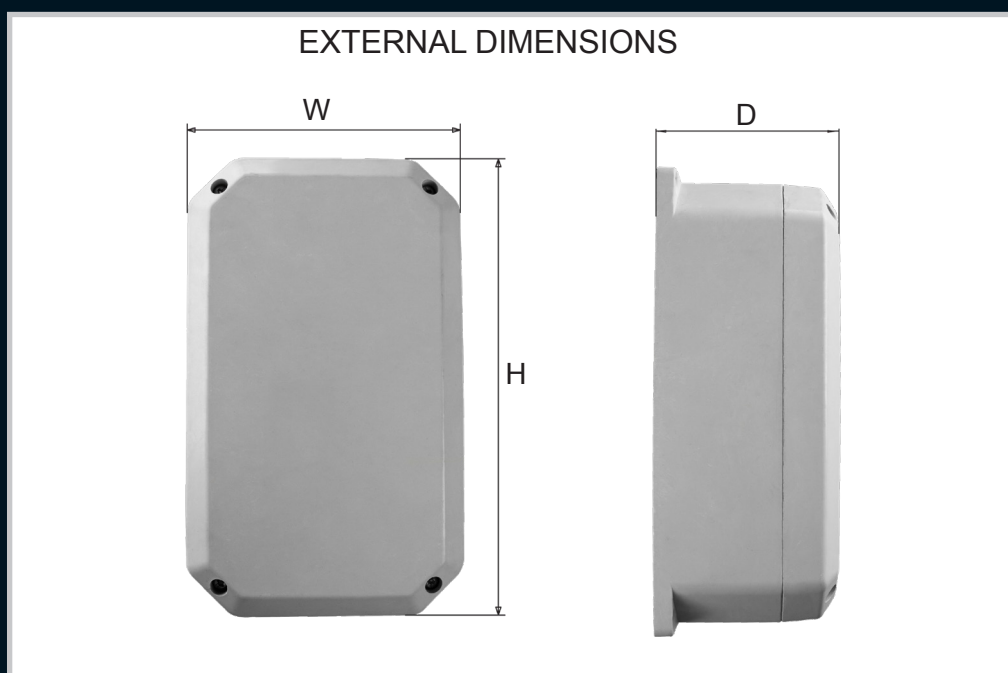


## Pad-lockable

ADB- Distribution Boards fits pad-lock size 262,  
\*Size may vary according to make.



Material	SMC (Sheet Moulding Compound)			
Operating Temperature	-50° C to - 200° C			
Glow Wire Capability / Flammability	960° / UL94 V0			
Expected UV Life (Direct Exposure)	25 years +			
IP Level	IP66			
IK Level	IK10			
Security Level	1	2	3	4

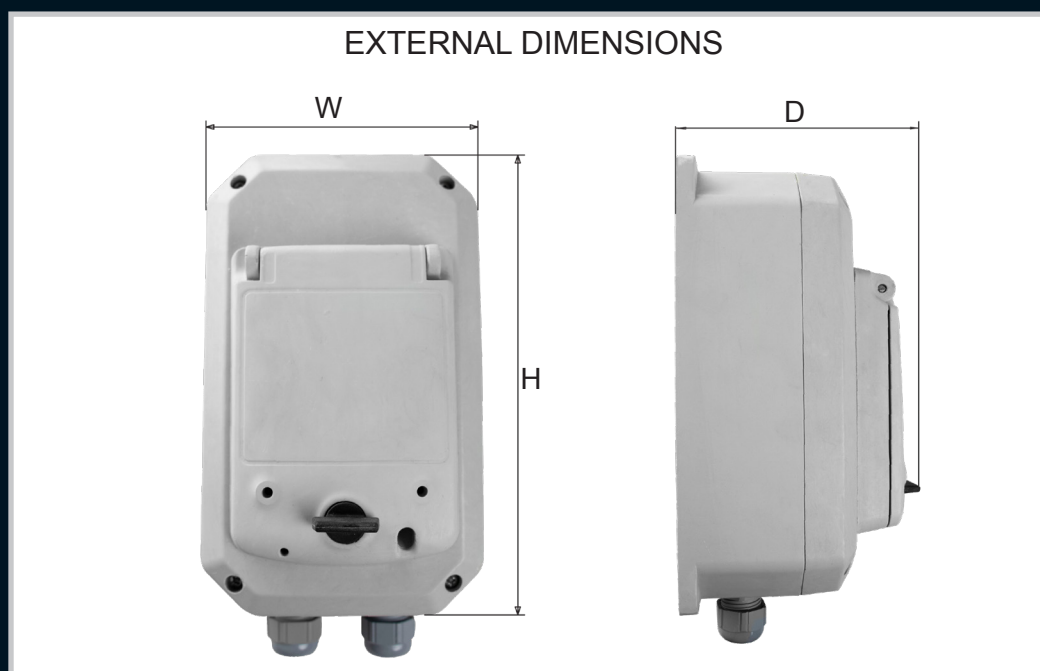


Part Number	Description	H (mm)	W (mm)	D (mm)
040-916	Robust 201208 Empty Enclosure with No Flap	205	125	80
040-942	Robust 201210 Deep Empty Enclosure with No Flap	205	125	100
040-935	Robust 261810, Empty Enclosure with No Flap	261	181	104
040-962	Robust 282513 Empty Enclosure with No Flap	280	250	130
040-952	Robust 483080 Empty Enclosure with No Flap	476	296	80
040-937	Robust 574310 Empty Enclosure with No Flap	570	430	100

- Weather and UV resistant
- Up to 4 pole din breakers or isolators
- IP Level: 66
- Made from GRP - Glass Reinforced Polyester



Material	SMC (Sheet Moulding Compound)			
Operating Temperature	-50° C to - 200° C			
Glow Wire Capability / Flammability	960° / UL94 V0			
Expected UV Life (Direct Exposure)	25 years +			
IP Level	IP66			
IK Level	IK10			
Security Level	1	2	3	4



Part Number	Description	H (mm)	W (mm)	D (mm)
040-910	Robust 201208 PC Flap with Barrel Lock	205	125	80
040-911	Robust 201208 PC Flap with Plastic Lock	205	125	80
040-912	Robust 201208 GRP Flap with Barrel Lock	205	125	80
040-913	Robust 201208 GRP Flap with Plastic Lock	205	125	80
040-943	Robust 201208 Deep PC Flap with Barrel Lock	205	125	100
040-944	Robust 201208 Deep PC Flap with Plastic Lock	205	125	100
040-945	Robust 201208 Deep GRP Flap with Barrel Lock	205	125	100
040-946	Robust 201208 Deep GRP Flap with Plastic Lock	205	125	100

- Weather and UV resistant
- Up to 4 pole din breakers or isolators
- IP Level: 66
- Made from GRP - Glass Reinforced Polyester



- 4 String
- IP66
- GRP (Glass Reinforced Polyester)
- Ideal for residential, commercial and light industrial PV systems

Part Number	Description	H (mm)	W (mm)	D (mm)
040-924	4 String Combiner with Surge Arrester	261	181	104
040-925	4 String Combiner without Surge Arrester	261	181	104

## FUSE HOLDER

(Positive and negative poles)  
for incoming current

- PV fuses
- Fuse rating: 15A
- Finger safe fuse holders



ALLBRO

## 16mm Outgoing Terminal



WEIDMULLER

## SPD

Class I & II Surge arrester  
for DC generation  
circuits



CITEL

## 16mm Earth Terminal



WEIDMULLER

## Robust Enclosure



ALLBRO

## INPUTS

MC4 Connectors IP66



MULTI CONTACT

Material	SMC (Sheet Moulding Compound)			
Operating Temperature	-50° C to - 200° C			
Glow Wire Capability / Flammability	960° / UL94 V0			
Expected UV Life (Direct Exposure)	25 years +			
IP Level	IP66			
IK Level	IK10			
Security Level	1	2	3	4



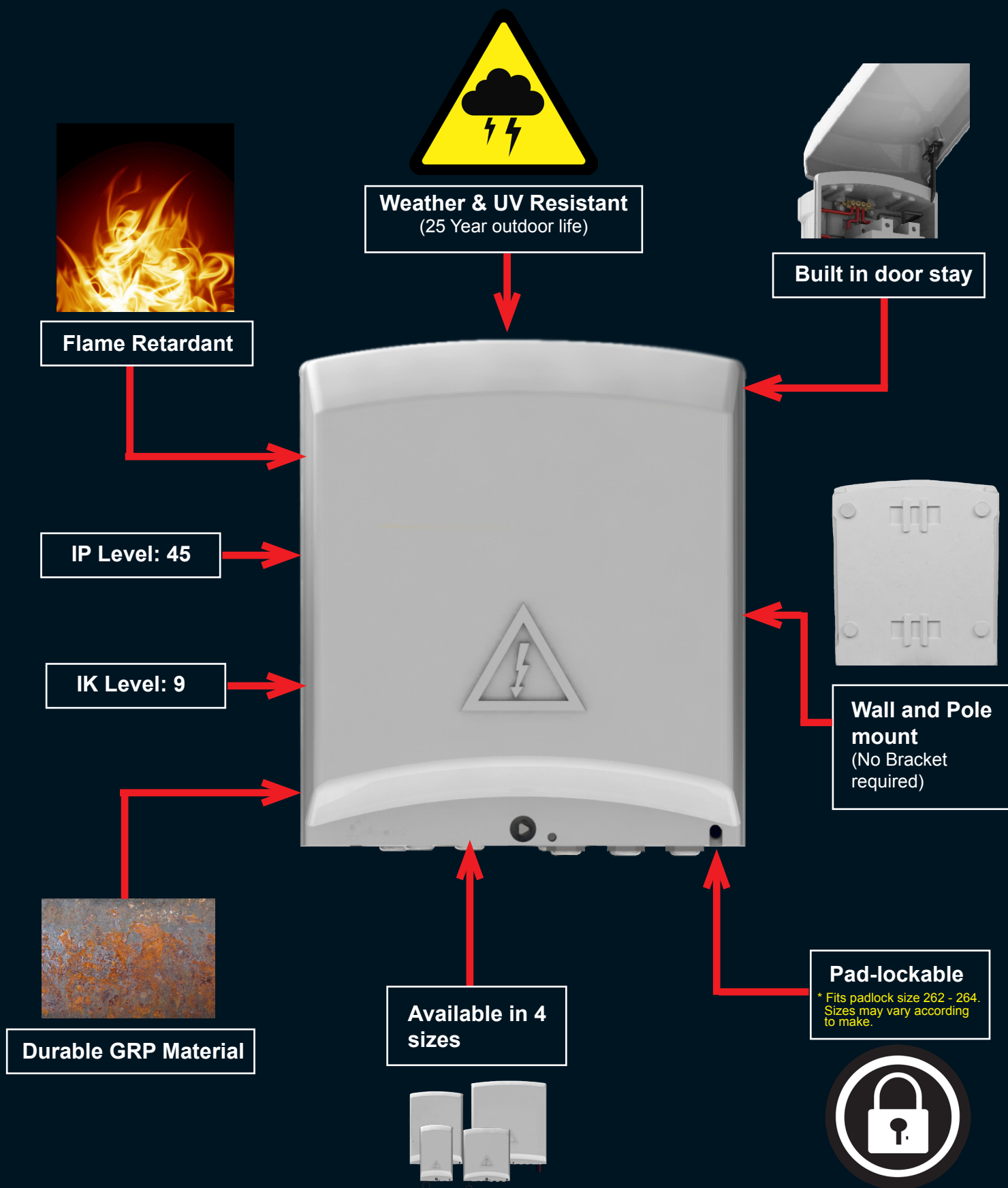
Part Number	Description	H (mm)	W (mm)	D (mm)
040-969	Temp DB 2 x 16A Panel Sockets 2 x 16A SGL SKT	476	296	80
040-970	Temp DB 4 x 16A Panel Sockets	476	296	80
040-971	Temp DB 6 x 16A Panel Sockets	476	296	80

\* NOTE: Above Temporary Distribution Boards are examples only.  
Allbro is able to configure customer specific solutions .

## Benefits of a Temporary Distribution Board:

- Provides temporary power to Construction & Camp sites
- Rugged and Robust in design
- Replaceable plug sockets
- Domestic & Industrial plug socket options
- High IP rating suitable for Boat docks and Piers
- Single phase 230V AC
- Full 30mA Earth leakage protection.







Part Number	Description	H (mm)	W (mm)	D (mm)
040-903	TILT 3	350	218	136
040-904	TILT 5	350	310	136
040-905	TILT 6	480	355	149
040-934	TILT 7	550	500	150

**Wall Mounting or Pole Mounting - (No Additional Parts Required for Either Method)**



**Pole Mounting**



**Wall Mounting**

# Tilt 2 Fibre Outdoor SMC multiport splice enclosure



Part Number	Description	H (mm)	W (mm)	D (mm)
040-951	Tilt 2 Fibre Splicing Box	255	185	95

## BENEFITS & FEATURES

- SMC Material-Lightweight & Durable.
- PC ABS Internal Parts.
- Cable management and routing limits bend radius and adds strain relief.
- Splicing and Patching.
- Ergonomic Design.
- Lockable for extra security.
- Pole or wall mountable.
- Easy Access to connectors for service and maintenance.
- Easy Installation - No Special tools required.
- UV Stabilised.
- UL94 Flammability Compliant.

## TECHNICAL SPECIFICATIONS

Splices (Max)	40
Heatshrink Splices Holders (Max)	20 Double layer (40mm Splice Protector)
Splice Trays	1
Fibre Capacity	24 Fibre - 12 Way Drop
Fibre Entry	Oval, Plus 1
Fibre Drop	12 (3-5mm)
Slack Capacity	2m + Drop Cable
Splitter Capacity	2 off (1x2 up to 1x32)
Patching	12LC Duplex/ SC Simplex
IP Rating	54
Installation Type	Indoor & Outdoor
Material	SMC (Sheet Moulding Compound)
Colour	Light Grey





The value and complexity of equipment deployed across vast geographical areas has increased massively. The need to protect the function of these networks and devices has been met with all sorts of interesting ideas. Some challenges have been brilliantly overcome, but no solution has been able to completely address the convergence of the challenges that exist in this environment.

### **Often- overlooked or forgotten challenges**

**Vandalism:** Due to the high value of enclosure content, bypassing a smart meter, disabling a surveillance system or simply stripping the contents for sale on the black market are growing global realities.

**Access Control:** Ease of access for authorised personnel is often adversely affected when trying to address vandalism challenge. Monitoring and tracking of authorised personnel is important as criminal elements sometimes gain authorised status.

**IP Level (Water and Dust):** While companies do their utmost to solve new challenges, the primary function of the enclosure is sometimes forgotten. Electrical systems fail because of three main factors, Temperature, water and dust. The latter two are addressed by the international standard IEC61529 (SANS IEC 61529). Enclosures that are hand-made differ from each other and simply do not seal consistently.

**UV resilience and weatherability:** Accelerated UV testing is primarily a measure of colour degradation. However, real life exposure has to cope with temperature cycling, rain and particle rich wind. International standards do not currently exist to test this, leaving real life long-term field trials to provide the only genuine test of an enclosure's ability to withstand the elements.

**Human contact risk/shock hazard:** When the solution to vandalism involves metallic materials, there is a serious risk for personnel or the public to come into contact with live electrical circuits. When such an enclosure is on a pole the risk for the person working at height is exaggerated.

**Flammability:** Some plastic materials are able to absorb impact very well. If one strikes a garden refuse bin with a hammer it just bounces off. The cautionary embossed words on the lid "No hot ash" point to a serious flaw in using such materials within an electrical network. All electrical enclosures are supposed to be non-flammable or at least self-extinguishing. Most utility companies require compliance to IEC 62208, which stipulates the parameters of glow wire testing and flammability. Using these materials specifically to address vandalism would incorrectly suppose that vandals only have access to hammers and not matches.

**Weight:** Whilst modern composites constantly deliver greater strength to weight performance, there is no way to get around the fact that weight is added when increasing the strength of a mechanical part. Keeping this weight down to a level that allows installation and does not compromise the pole or wall structure is a real challenge.

**Signal interference:** Some materials create a faraday cage effect and interfere with signals that often form part of the function of the installed equipment. Antennae that are mounted outside the enclosure are a vulnerable point that also attract unwanted attention.

### **Announcement**

Solving the above challenges is complicated, and the resulting solution normally becomes costly bringing the price into question.

AllVault™ is the name given to the latest innovation. Experience learned while pioneering composite manhole chamber design allowed Allbro to create what we believe is the strongest composite enclosure ever to be sold commercially.

AllVault™ has been designed to address every one of the above challenges. The cost of lost revenue is not measured in the time and capital it takes to replace infrastructure. Systems that are bypassed or are out of order represent enormous values that can never be recovered. The financial case to be made to justify investment in this area is a very straightforward conclusion to prove.



Part Number	Description	H (mm)	W (mm)	D (mm)
040-906	AllVault empty with mechanical nut (IP 66)	581	403	201

AllVault™ is a world first. This high security outdoor box is made to offer exceptional protection from dust, water and unwanted personnel. The structure of the box is as important as the locking system and access control. Various locking systems have been catered for.

#### **Mechanical**

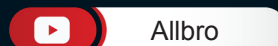
##### **Simple and Effective Mechanical Locking Options**



Coded Nuts (1000 variations) with magnetic caps works like coded wheel mag nuts

#### **Key Based Access Control**

Key based access control system



View our YouTube channel (Allbro Pty Ltd) Click on the video "Allbro bullet proof box" to view the AllVault™ being put to the test to showcase its true durability and strength.

## CONTACT US

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