








IP Rating and Technical Guidance

IP ratings guide

(Ingress Protection to BS EN IEC 60529)











IP40

1st digit – protection against solid objects

-  **0** No protection
-  **1** Protected against objects greater than 50mm
-  **2** Protected against objects greater than 12mm
-  **3** Protected against objects greater than 2.5mm
-  **4** Protected against objects greater than 1.0mm
-  **5** Ingress of dust is not totally prevented but dust does not enter in harmful quantities
-  **6** No ingress of dust

IP40

2nd digit – protection against water

-  **0** No protection
-  **1** Protected against falling drops
-  **2** Protected against drops falling at 15°
-  **3** Low pressure spray – similar to shower head at up to 60° from vertical
-  **4** Low pressure spray – similar to shower head – from any angle for 5 minutes
-  **5** Medium pressure jet – similar to garden hose – from any angle for 3 minutes
-  **6** High pressure jet – similar to fire hose – from any angle for 3 minutes
-  **7** Submersion at 1 metre for 30 minutes
-  **8** Higher water pressure eg: 2 bar for 2 hours. Conduits are tested in-house at up to 10 bar. (equivalent to 100m underwater)
-  **9** Steam clean, high pressure high temp jet wash



Buyer beware

IP tests are type tests of short duration and do not guarantee long term performance. EN 60529 states that equipment conforming to IP67 or IP68 cannot be assumed to meet IP66 and that the manufacturer shall declare the pressure and duration of the test, for example, FPAX 2 bar for 2 hours.

Technical guidance

Application advice

Flexicon can offer impartial advice on which of our wide range of conduit systems is most suited to your application. Factors which may be important include:-

Standards, performance and approvals

- Compression strength
- Tensile strength
- Impact strength
- Temperature range
- Flexibility
- Fatigue life
- Electrical insulation or continuity
- IP rating
- Chemical resistance
- Corrosion resistance
- Abrasion resistance
- UV resistance
- Anti vibration
- Fire performance
- EMC screening
- Dimensions
- Weight
- Colours
- Ease of installation
- Anti tamper
- Hazardous Areas

Flexicon conduits and fittings are manufactured by Flexicon to comply with the IEC and European conduit standard BS EN IEC 61386 - see classification table below.

Certain tests are carried out internally by Flexicon, other testing is carried out externally by accredited test laboratories. Specific test reports are available upon request.

Vibration and shock testing to EN61373 Cat 2.

Certain conduit systems have been tested and approved to the relevant parts of the Australian Standard AS2053.

Where product performance data over and above the requirements of BS EN IEC 61386 is provided e.g: Low Fire Hazard testing and EMC screening, other appropriate standards have been used.

Cable glands are manufactured to EN 50262.

Further information regarding standards and approvals can be found on page 104.

Technical Data Sheets are available giving additional information. Please call +44 (0)1675 466900 for technical information and application advice.



3D CAD models can be downloaded from our website www.flexicon.uk.com



Flexicon has classified EMC screening of our products as follows;

STANDARD EMC SCREEN	ENHANCED EMC SCREEN	SUPER EMC SCREEN
Standard 50dB @ 1MHz	Enhanced 60dB @ 1MHz	Super 70dB @ 1MHz

Classification of conduit systems to BS EN IEC 61386

Level	1st digit Compression Strength N/50mm	2nd digit Impact Strength Joules at min temp	3rd digit Minimum Temp deg C	4th digit Maximum Temp deg C	5th digit Conduit Type	6th digit Electrical Properties	7th digit IP Rating Solids	8th digit IP Rating Water	9th digit Corrosion Resistance (water)	10th digit Tensile Strength N	11th digit Flame Propagation	12th digit Suspended Load N/48hr
0						None declared		0	None declared	None declared		
1	V. Light (125)	V. Light (0.5)	5	60	Rigid	Continuous		1	Low in & out	V. Light (100)	Non Flame Propagating	V. Light (20)
2	Light (320)	Light (1)	-5	90	Pliable	Insulating		2	Medium in & out	Light (250)	Flame Propagating	Light (30)
3	Medium (750)	Medium (2)	-15	105	Pliable self recovering	Continuous + Insulating	3	3	Medium in & high out	Medium (500)		Medium (150)
4	Heavy (1250)	Heavy (6)	-25	120	Flexible		4	4	High in & out	Heavy (1000)		Heavy (450)
5	V. Heavy (4000)	V. Heavy (20)	-45	150			5	5		V. Heavy (2500)		V. Heavy (850)
6				250			6	6				
7				400				7				