

Non-Metallic Systems

FL/C90 - 90° Elbow Body Panel Mount Swivel Flange with Seal

Technical Characteristics

Conforms to	BSI Kitemark KM-35161 Low voltage directive Lloyd's Register of Shipping (Type Approval) NFF 16-10/12 I4,F2 UL1696 Recognition (Dry indoor locations only)		
Approvals and Standards	    		
Degree of mechanical protection	High Impact Resistance		
Degree of protection	IP66 - As standard IP67 - When fitted with ALS Seal IP68 - When fitted with ALS Seal (1.1 Bar 35 mins) IP69k - When fitted with ALS Seal		ALS Seal 
UV protection	Very High		
Fitting Characteristics		Panel mount flange, 4 fixing holes, integral face seal Black (BL) & Grey (GR)	
Application	Flanged fittings for bulk head or panel mounting sealing with integral face seal		
Normal operating temperature range	Application	Min Temp	Max Temp
	Static	- 50°C	+120°C
	Dynamic	- 45°C	+120 °C
For use with - Conduit Series	Light, Standard and Heavyweight variants of PA , PI , CP , PR , PADL & PF		
Fire performance	Test Standard	Performance Rating	
	BS EN 61386-1 & 23	Approved	
	NFF16-101	I4 F2	
	ISO 4589-2	24%	
	BS EN 60695-2-11	850°C	
	UL94	V2	
Testing data	Click or See pages 3 & 4		
Type of material	Polyamide (Nylon) 66 Body - NBR Face Seal		

Image



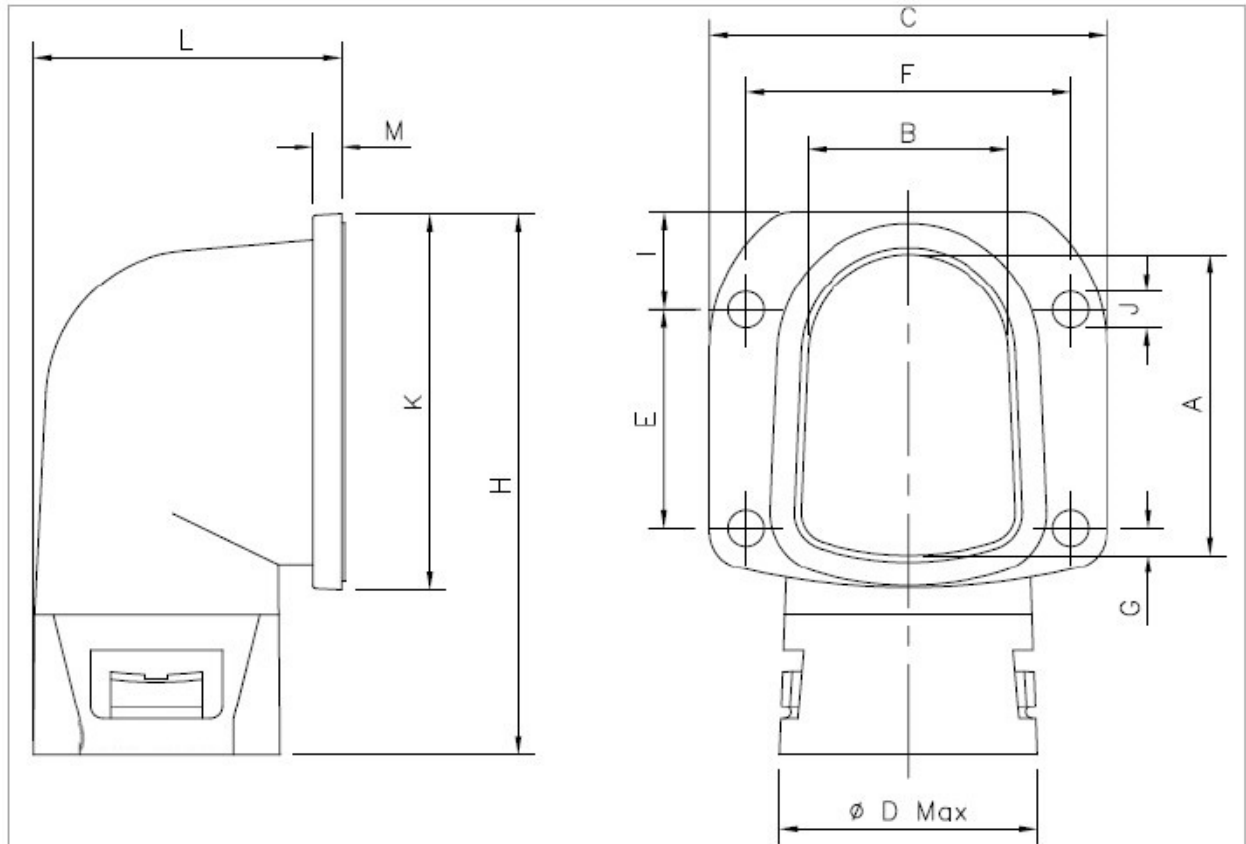
**Self Extinguishing
Low Smoke & Halogen
Free**

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Dimensional Data

Part No Black Body	Part No Grey Body	Nominal Dimensions (mm)												
		A	B	C	D	E	F	G	H	I	J	K	L	M
TAL34/FL/90/BL	TAL34/FL/90/GR	50.0	34.0	66.0	43.0	36.0	54.0	4.0	91.0	16.8	6.4	62.8	51.0	4.8
TAL42/FL/90/BL	TAL42/FL/90/GR	64.0	42.0	86.0	54.0	30.0	73.0	14.0	109.0	27.0	6.4	77.0	61.0	6.0
TAL54/FL/90/BL	TAL54/FL/90/GR	72.0	54.0	86.0	68.0	30.0	73.0	19.0	123.0	30.0	6.4	86.0	73.0	6.0



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BS EN 61386 Classification

	Fitting	Compression	Impact	Min temp	Max temp	bending	electrical	IP solids	IP water	Corrosion	Tensile	Non-flame Propagating	Suspended load
	TAL	N/A	4	2	4	N/A	0	6	6	0	1	1	0

Mechanical Properties

Test Type	Methods / Standards	Requirements	Value
Tensile Strength	IEC61386-1	2 mins at Specified Value (<i>PAFS21 Conduit</i>)	Class 1
Tensile Strength		Ultimate Pullout (<i>PAFS21 Conduit</i>)	240N
Impact Strength @ -45°C	IEC61386-1	No visible damage	Class 1
Impact Strength @ -5°C	IEC61386-1	No visible damage	Class 3
Impact Strength @ 23°C	IEC61386-1	No visible damage	Class 5

Tensile Tests to IEC 61386 gives the minimum classification value only. Actual values will depend on the type and size of the fittings used and will always be greater than the minimum – Impact strength is the minimum classification value at the minimum temperature – actual values will depend on size and temperature. Specific values available on request.

Thermal Properties

Test Type	Methods / Standards	Requirements	Value
Dynamic Applications	IEC 61386-23	5000 Operations at MBR 2hrs	-45°C to +120°C
Static Short Term Temp		Temporary Use (3000hrs)	-50°C to +120°C
Static Long Term Temp		Permanent Use (30,000) Hours	-40°C to +105°C

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Flammability

Test Type	Method / Standard	Requirement	Result	Unit
Glow Wire	BS EN 60695-2-11	Extinguish within 30s	850°C	°C
Flammability	IEC 61386-1-12	1Kw Burner Flame to Self Extinguish	Pass	Pass/Fail
Oxygen Index	ISO 4589-2		24.1	%
Ignition Rating	NF F16-101	I Rating	I4	-

Smoke

Test Type	Method / Standard	Requirement	Result	Unit
Fume Rating	NF F16-101	F Rating	F2	-

Toxicity

Test Type	Method / Standard	Requirement	Result	Unit
Halogen Free	NFX 70-100	< 0.5%	Pass	Pass/Fail

Pre Test Conditions

Duration	Standard	Temperature	Relative Humidity
168 (Hours)	IEC61386	23 (°C)	50 (%)

Chemical Resistance Chart

Key: Suitable :  Limited Suitability :  Unsuitable :  Not Tested : 	 Astm No.1	 Diesel oil	 Methyl Bromide	 Sulphur Dioxide (Gas)
	 Astm No.2	 Diethylamine	 MEK	 Sulphuric Acid (10%)
	 Astm No.3	 Ethanol	 Nitric Acid (10%)	 Sulphuric Acid (70%)
	 Acetic Acid (10%)	 Ether	 Nitric Acid (70%)	 Toluene
	 Acetone	 Ethylamine	 Oxalic Acid	 Transformer Oil
	 Aluminium Chloride	 Ethylene Glycol	 Ozone (Gas)	 1,1,1-Trichloroethane
	 Aniline	 Ethyl Ethanoate	 Paraffin oil	 Trichloroethylene
	 Benzaldehyde	 Freon 32	 Petrol	 Turpentine
	 Benzene	 Hydrochloric Acid (10%)	 Phenol	 Vegetable Oil
	 Carbon tetrachloride	 Hydrochloric Acid (36%)	 Sea Water	 Vinyl Acetate
	 Chlorine water	 Hydrogen Peroxide (35%)	 Silver Nitrate	 Water
	 Chloroform	 Hydrogen Peroxide (87%)	 Skydrol	 White Spirit
	 Citric Acid	 Lactic Acid	 Sodium Chloride	 Zinc Chloride
	 Copper Sulphate	 Lubricating oil	 Sodium Hydroxide (10%)	
	 Cresol	 Methanol	 Sodium Hydroxide (60%)	

The information above is given as a guide only and is based on published technical data and experience. The chemical resistance of the above products is dependant on factors such as chemical exposure, concentration of the chemical and temperature. The above chemicals are valid for a temperature of 23°C. Use of the above table is at the users own discretion and risk. Those using it must satisfy themselves that their application presents no health and safety risks. The end user should assess compatibility with their application and contact TTS for further information.

ADHERENCE TO THE CURRENT WIRING REGULATIONS BS7671 OR NEC WIRING REGULATIONS (FOR USA) IS STRONGLY ADVISED.
MINIMUM BEND RADIUS FOR FLEXING IS DEPENDANT UPON MINIMUM TEMPERATURE, BENDING FREQUENCY AND CHEMICAL ENVIRONMENT.