



**Conduit**  
High Flexibility Medium Fatigue

**Construction**  
PVC Covered Galvanised Steel



## Metallic TYPE SP

**Applications** Machine Tool  
Indoor/Outdoor  
General Purpose

**Fittings**  
IP68 n/a  
IP66 n/a  
IP65 Type SP Fittings – Type M @ C90  
IP54 Type SP Fittings – Type A, B, C, E & F

**Characteristics** High Flexibility  
Medium Fatigue Life  
Self Extinguishing  
Very High UV Resistance

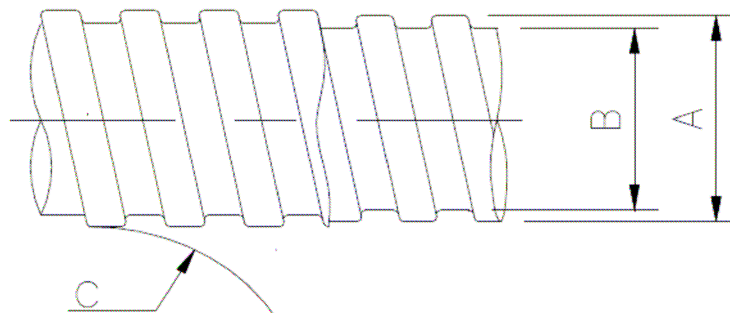
**Approvals**  
**CE LVD**  
**IEC 61386**

**Material** PVC Covered Galvanised Steel



IEC 61386

Part No.	Conduit Size			Dimensions				
	NC	NW	Pitch	(B) Inside Diameter	(A) Outside Diameter	Reel Length	(C) Min Bend Radius	Colour
SP06	06	-	-	5.0	7.8	50	15	BL
SP10	10	-	-	6.8	10.0	25, 50	25	BL, GR, OR
SP12	12	-	-	10.3	14.0	25, 50	30	BL, GR OR
SP16	16	-	-	13.0	17.0	10, 25, 50	35	BL, GR, OR
SP20	20	-	-	16.9	21.5	10, 25, 50	45	BL, GR, OR
SP25	25	-	-	21.4	26.0	10, 25, 50	55	BL, GR, OR
SP32	32	-	-	28.1	34.0	10, 25	60	BL, GR, OR
SP40	40	-	-	37.7	44.5	10, 25	80	BL, GR, OR
SP50	50	-	-	48.8	55.0	10, 25	90	BL, GR, OR
SP63	63	-	-	57.5	64.5	10	115	BL, GR, OR
SP75	75	-	-	70.0	79.0	10	150	BL, GR, OR





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#### Mechanical Properties

Test Type	Method/Standards	Requirements	Value
Crush Strength @ 23°C	IEC61386-1	<25% crush >90% recovery	1250N
Crush Strength @ 23°C	AFX norm C1989	10% Crush with Instantaneous Results	220N
Impact Strength @ 23°C	IEC61386-1	No Cracks <20% deformation	20J
Impact Strength @ -25°C	IEC61386-1	No Cracks. <20% deformation	6J
Tensile Strength @ 23°C	IEC61386-1	With M Type Fitting	1000N
Tensile Strength @ 23°C	AFX norm T1987	Ultimate pull-out of M Type Fitting	1450N
Static Bend Radius @ 23 °C	AFX norm S1985	-	45mm
Dynamic Bend radius @ -5°C	IEC61386-2-3	5000 cycles minimum	Pass

#### Thermal Properties

Test Type	Method/Standards	Requirements	Value
Minimum Temperature	IEC61386-2-3	Dynamic 5000 cycles	-5°C
Maximum Temperature	IEC61386-2-3	Dynamic 5000 cycles	90°C
Minimum Static	-	Permanent Use	-15°C
Maximum Static	-	Permanent Use	70 °C
Maximim Short Term	-	3000 hour maximum	90 °C

#### Flammability, Smoke and Toxicity (FST) Performance

Test Type	Method/Standard	Requirement	Result	Unit
Halogen	LUL	<0.5%	NO	Yes/No
Phosphorus Free	LUL	<0.5%	Yes	Yes/No
Sulphur	LUL	<0.5%	Yes	Yes/No
Oxygen Index	ISO4589	% Oxygen to support combustion	28	%
Glow wire rating	IEC 695	No ignition, extinguish witin 2 seconds	850	°C
Flammability	UL94	Verticle (V0, V2) or Horizontal (HB)	V0	-
Flammability	IEC61386-1	1kW burner @ 45°	Pass	Pass/Fail
I Classification	NFF16-101	Oxygen Index and Glow wire	-	
F Classification	NFF16-101102	Smoke density & toxicity	-	
Smoke Density	ATS1000	In flaming mode <100 @ 4 mmin	-	Pass/Fail
	ATS1000	In non-flaming <100 @ 4mins	-	Pass/Fail
Toxicity	NES713 ssue 3	Smoke Toxicity ≤5.0 or ≤ 10.0		

#### Pre test Conditions

Duration	Standard	Temperature	Relative Humidity
168 (Hours)	EN50086/IEC61386	23 (°C)	50 (%)



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**Chemical Properties**

Suitable  Limited Suitability

<b>Astm No.1</b>	UNSUITABLE	<b>Methanol</b>	UNSUITABLE
<b>Astm No.2</b>	UNSUITABLE	<b>Methyl Bromide</b>	UNSUITABLE
<b>Astm No.3</b>	UNSUITABLE	<b>MEK</b>	UNSUITABLE
<b>Acetic Acid (10%)</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #FF8C00;"></span>	<b>Nitric Acid (10%)</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #008000;"></span>
<b>Acetone</b>	UNSUITABLE	<b>Nitric Acid (70%)</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #008000;"></span>
<b>Aluminium Chloride</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #FF8C00;"></span>	<b>Oxalic Acid</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #FF8C00;"></span>
<b>Aniline</b>	UNSUITABLE	<b>Ozone (Gas)</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #FF8C00;"></span>
<b>Benzaldehyde</b>	UNSUITABLE	<b>Paraffin oil</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #FF8C00;"></span>
<b>Benzene</b>	UNSUITABLE	<b>Petrol</b>	UNSUITABLE
<b>Carbon tetrachloride</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #FF8C00;"></span>	<b>Phenol</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #FF8C00;"></span>
<b>Chlorine water</b>	UNSUITABLE	<b>Sea Water</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #008000;"></span>
<b>Chloroform</b>	UNSUITABLE	<b>Silver Nitrate</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #FF8C00;"></span>
<b>Citric Acid</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #008000;"></span>	<b>Skydrol</b>	UNSUITABLE
<b>Copper Sulphate</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #008000;"></span>	<b>Sodium Chloride</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #FF8C00;"></span>
<b>Cresol</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #FF8C00;"></span>	<b>Sodium Hydroxide (10%)</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #FF8C00;"></span>
<b>Diesel oil</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #FF8C00;"></span>	<b>Sodium Hydroxide (60%)</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #FF8C00;"></span>
<b>Diethylamine</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #FF8C00;"></span>	<b>Sulphur Dioxide (Gas)</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #008000;"></span>
<b>Ethanol</b>	UNSUITABLE	<b>Sulphuric Acid (10%)</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #008000;"></span>
<b>Ether</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #FF8C00;"></span>	<b>Sulphuric Acid (70%)</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #008000;"></span>
<b>Ethylamine</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #FF8C00;"></span>	<b>Toluene</b>	UNSUITABLE
<b>Ethylene Glycol</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #FF8C00;"></span>	<b>Transformer Oil</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #FF8C00;"></span>
<b>Ethyl Ethanoate</b>	UNSUITABLE	<b>1,1,1-Trichloroethane</b>	UNSUITABLE
<b>Freon 32</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #FF8C00;"></span>	<b>Trichloroethylene</b>	UNSUITABLE
<b>Hydrochloric Acid (10%)</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #008000;"></span>	<b>Turpentine</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #FF8C00;"></span>
<b>Hydrochloric Acid (36%)</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #FF8C00;"></span>	<b>Vegetable Oil</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #FF8C00;"></span>
<b>Hydrogen Peroxide (35%)</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #008000;"></span>	<b>Vinyl Acetate</b>	UNSUITABLE
<b>Hydrogen Peroxide (87%)</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #008000;"></span>	<b>Water</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #008000;"></span>
<b>Lactic Acid</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #FF8C00;"></span>	<b>White Spirit</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #FF8C00;"></span>
<b>Lubricating oil</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #FF8C00;"></span>	<b>Zinc Chloride</b>	<span style="display:inline-block; width:100px; height:10px; background-color: #008000;"></span>

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 Adaptaflex for further information.

**IEC 61386 CLASSIFICATION**

	Fitting	Compression	Impact	Min temp	Max temp	Bending	Electrical	IP Solids	IP Water	Corrosion	Tensile	Non-Flame Propagation	Suspended Load
SP	SP(M)	4	4	2	2	4	2	6	5	-	4	1	5



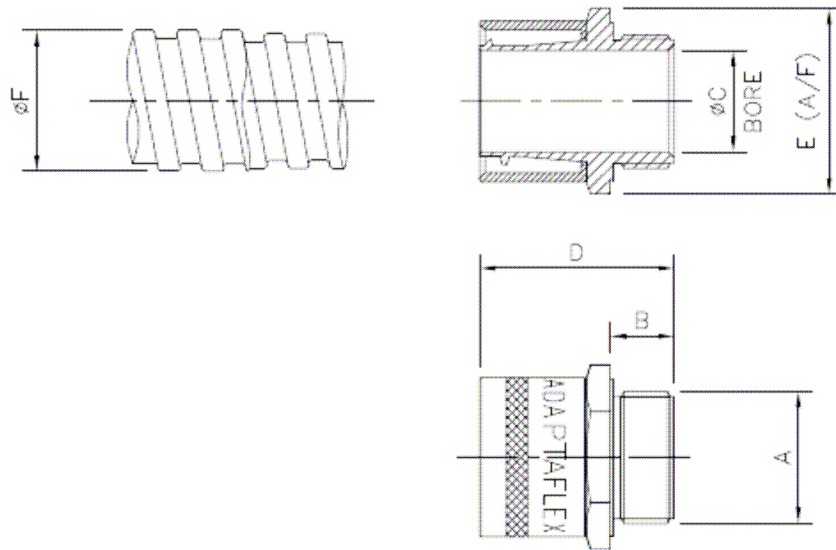
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**Dimension charts for associated fittings  
TYPE A**



METRIC THREADS

PART No.	THREAD A	NOMINAL DIMENSIONS (mm)				NOMINAL CONDUIT øF
		B	C	D	E	
SP10/M12/A	M12 x1.5	8.0	5.5	23.0	14.0	10.0
SP12/M16/A	M16 x1.5	8.0	8.5	23.0	17.0	14.0
SP16/M16/A	M16 x1.5	10.0	11.5	25.5	20.0	17.0
SP16/M20/A	M20 x1.5	10.0	11.5	25.5	22.0	17.0
SP20/M20/A	M20 x1.5	13.0	15.3	29.0	24.0	21.0
SP25/M25/A	M25 x1.5	12.0	19.0	36.5	30.0	26.0
SP32/M32/A	M32 x1.5	14.0	26.2	39.0	38.0	34.0
SP40/M40/A	M40 x1.5	15.0	34.2	43.0	50.0	44.5
SP50/M50/A	M50 x1.5	15.0	45.0	45.0	66.5	55.0
SP63/M63/A	M63 x1.5	20.0	54.0	57.0	76.5	64.5
SP75/M75/A	M75 x1.5	20.0	66.5	60.0	84.0	79.0