

Borrachas Técnicas MGO Unipessoal Lda.



# Ponteiras / Tapa Topos



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## TUBE INSERTS

### Your Guide To Finding the right Tube Gauge size:

#### Tube Gauge Calculation

Metal tubes are available in various tube gauges, although the most commonly used in furniture manufacture range from 10 to 20 gauge.

To use this guide, calculate the wall thickness of the tube by subtracting the inside diameter from the outside diameter and dividing by 2. By cross-referencing this wall thickness on the table right, the tube gauge is obtained.

Gauge	Wall Thickness*		Gauge	Wall Thickness*	
	inches	(mm)		inches	(mm)
10	0.128	3.25	17	0.056	1.42
11	0.116	2.95	18	0.048	1.22
12	0.104	2.64	19	0.040	1.02
13	0.092	2.34	20	0.036	0.91
14	0.080	2.03	21	0.032	0.81
15	0.072	1.83	22	0.028	0.71
16	0.064	1.63			

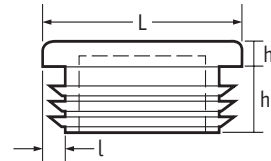
\* Remember the lower the gauge the thicker the wall thickness

### Ribbed Square Inserts



#### Black and Branca LDPE

- Ribbed for easy assembly and secure fitting
- Cover sharp tube edges



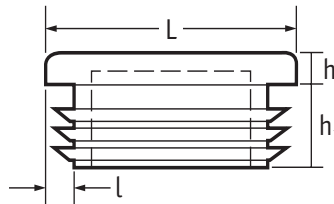
Part Number				Dimensions						Std Pack Qty
Preta		Branca		L (mm)	L (ins)	h (mm)	h1 (mm)	l (mm)	l (gauge)	
Polished	Eroded	Polished	Eroded							
-	460688	-	056010060303	10	-	4	11.5	1.5-2.0	-	2500
-	460689	-	-	12	-	4	11.5	1.5-2.0	-	2500
-	056012069903	-	056012060303	12	-	2	7	1.0-2.0	-	500
111193	111211	111229	111247	12.7	1/2	4	11.5	0.8-2.0	14-20	2500
111194	111212	-	111248	13	-	5	11.5	0.8-2.0	-	2500
111501	111539	-	111615	15	-	4	11.5	0.8-2.0	-	2000
-	056015069903	-	056015060303	15	-	3	13	1.0-2.0	-	500
114507660	111213	111231	111249	16	5/8	5	11.5	0.8-2.5	12-20	2500
11764	-	-	-	18	-	5	16.5	1.2-1.5	-	5000
-	056018069903	-	056018060303	18	-	5	12	1.0-2.0	-	500
111196	111214	111232	-	19	3/4	5	11.5	0.8-2.5	10-12	2500
114507661	111215	111233	111251	20	-	5	11.5	0.8-2.5	-	2500
-	056020069903	-	056020060303	20	-	5	11.5	1.5-2.0	-	100
114509267	111216	-	111252	22	7/8	5	11.5	0.8-2.5	10-12	2500
-	056022069903	-	056022060303	22	-	5	11.5	1.0-3.5	-	100
114504477	111217	111235	-	25	-	5	11.5	1.0-2.5	-	2500
-	056025069903	-	056025060303	25	-	6	12	1.5-2.0	-	100
111200	111218	111236	111254	25.4	1	5	11.5	1.0-2.5	12-20	2500
199149	-	199150	-	28.6	1 1/8	5	12.4	1.0-2.0	16-20	2000
111201	111219	111237	-	30	-	5	11.5	1.0-3.0	-	2000
-	056030069903	-	056030060303	30	-	6	12	1.5-2.0	-	100
111502	111540	-	111616	32	1 1/4	5	11.5	1.0-3.0	10-18	1500
-	056032069903	-	056032060303	32	-	5	11.5	1.0-3.5	-	50
111202	111220	111238	-	35	1 3/8	5	11.5	1.0-3.0	10-18	1500
-	056035069903	-	056035060303	35	-	5	14.5	1.0-3.0	-	50
111503	111541	111579	111617	38	1 1/2	5	14.5	1.0-3.0	10-18	1000

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TUBE INSERTS

Ribbed Square Inserts *CONTINUED*

Preta and Branca LDPE



Part Number				Dimensions						Std Pack Qty
Preta		Branca		L (mm)	L (ins)	h (mm)	h <sub>1</sub> (mm)	l (mm)	l (gauge)	
Polished	Eroded	Polished	Eroded							
<b>114504189</b>	111221	111239	111257	40	-	5	14.5	1.0-3.0	-	500
199188	-	-	-	44.4	1 3/4	4.7	15.7	1.0-2.0	14-18	500
199187	-	-	-	44.4	1 3/4	4.7	15.1	2.0-3.0	10-14	500
111204	111222	-	056045060603	45	-	5	14.5	1.0-3.0	-	500
<b>114507150</b>	111223	-	-	50	-	5	14.5	1.0-3.0	-	500
-	199274	199868	-	50	-	6.6	18	3.0-5.0	-	500
-	056050069903	-	056050060303	50	-	5	20	1.5-4.0	-	50
111206	111224	111242	111260	50.8	2	5	14.5	1.0-3.0	10-18	500
-	466560	-	056055060303	55	-	5	14.5	2.0-4.0	-	400
111810	111811	-	111813	60	-	5	24.3	3.0-4.0	-	250
111207	111225	111243	111261	60	2 1/2	5	14.5	1.0-3.0	-	250
111504	111542	-	111618	63.5	-	6	14.5	1.0-3.0	11-20	250
111505	111543	-	111619	65	-	6	14.5	1.0-3.0	-	250
111208	111226	111244	-	70	-	6	22	2.0-4.0	-	150
-	056070069903	-	056070060303	70	-	5	18.5	2.0-4.0	-	10
111506	111544	111235	111620	75	-	6	22	2.0-4.0	-	200
111507	111545	-	111621	76.2	3	6	22	2.0-4.0	8.4	200
111209	111227	-	111623	80	-	6	22	2.0-4.0	-	150
-	056080069903	-	056080060303	80	-	8	24	3.0-5.0	-	10
-	460699	-	-	90	-	6	21	3.0-5.0	-	100
-	056090069903	-	056090060303	90	-	7	25	3.5-5.0	-	10
<b>114507998</b>	111228	111246	-	100	-	7	22	2.0-4.0	-	100
-	056100069903	-	056100060303	100	-	7	24	2.0-4.0	-	10
-	460700	-	-	110	-	6	24.5	3.5-0-5.0	-	60
-	056110069903	-	056110060303	110	-	6	24.5	3.0-5.0	-	10
-	466558	-	056120060303	120	-	5	25	2.5-5.0	-	100
-	056140069903	-	056140060303	140	-	6	35	4.0-7.0	-	10
-	466559	-	-	150	-	7	27	5.0-8.0	-	75

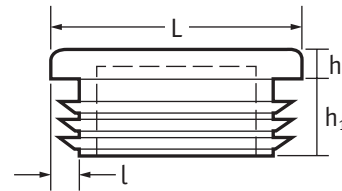
**TUBE INSERTS**

**Ribbed Square Inserts**

Mid and Dark Grey



- Mid Grey similar to RAL7042
- Dark Grey similar to RAL 7011



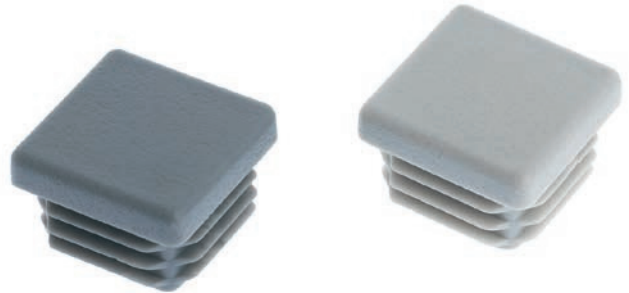
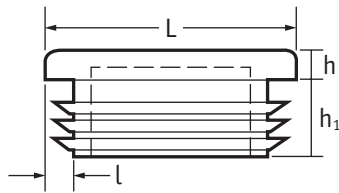
Part Number				Dimensions						Std Pack Qty
Mid Grey		Dark Grey		L(mm)	L(ins)	h(mm)	h1(mm)	l(mm)	l(guage)	
Polished	Eroded	Polished	Eroded							
-	056010062003	-	-	10	-	4	11.5	1.5-2.0	-	500
-	056012062003	-	-	12	-	2	7	1.0-2.0	-	500
111265	-	-	-	12.7	1/2	4	11.5	0.8-2.0	14-20	2500
-	056013062003	-	-	13	-	4	11.5	1.5-2.0	-	500
-	111691	-	111767	15	-	4	11.5	0.8-2.0	-	2000
-	056015062003	-	-	15	-	3	13	1.0-2.0	-	500
111267	111285	-	111321	16	5/8	5	11.5	0.8-2.5	12-20	2500
-	056018062003	-	-	18	-	5	12	1.0-2.0	-	500
111268	111286	111304	111332	19	3/4	5	11.5	0.8-2.5	10-12	2500
-	111287	-	111323	20	-	5	11.5	0.8-2.5	-	2500
-	056020062003	-	-	20	-	5	11.5	1.5-2.0	-	100
111270	111288	111306	111324	22	7/8	5	11.5	0.8-2.5	10-12	2500
-	056022062003	-	-	22	-	5	11.5	1.0-3.5	-	100
-	111289	-	111325	25	-	5	11.5	1.0-2.5	-	2500
-	056025062003	-	-	25	-	6	12	1.5-2.0	-	100
111272	111290	111308	111326	25.4	1	5	11.5	1.0-2.5	12-20	2500
-	111291	-	111327	30	-	5	11.5	1.0-3.0	-	2000
-	056030062003	-	-	30	-	6	12	1.5-2.0	-	100
-	111692	-	111768	32	1 1/4	5	11.5	1.0-3.0	10-18	1500
-	056032062003	-	-	32	-	5	11.5	1.0-3.5	-	50
-	056035062003	-	-	35	-	5	14.5	1.0-3.0	-	50
111655	111693	-	111769	38	1 1/2	5	14.5	1.0-3.0	10-18	1000
-	111293	-	111329	40	-	5	14.5	1.0-3.0	-	500
110646	-	-	-	44.4	1 3/4	4.7	15.1	2.0-3.0	10-14	500
111276	111294	-	111330	45	-	5	14.5	1.0-3.0	-	500
111277	111295	111313	111331	50	-	5	14.5	1.0-3.0	-	500
-	056050062003	-	-	50	-	5	20	1.5-4.0	-	50
-	111296	-	111332	50.8	2	5	14.5	1.0-3.0	10-18	500
-	056055062003	-	-	55	-	5	14.5	2.0-4.0	-	25

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TUBE INSERTS

Ribbed Square Inserts *CONTINUED*

Mid and Dark Grey



Part Number				Dimensions						Std Pack Qty
Mid Grey		Dark Grey		L(mm)	L(ins)	h(mm)	h1(mm)	l(mm)	l(guage)	
Polished	Eroded	Polished	Eroded							
111814	111815	111816	111817	60	-	5	24.3	3.0-4.0	-	250
-	111694	-	111770	63.5	2 1/2	6	14.5	1.0-3.0	11-20	250
-	111695	-	111771	65	-	6	14.5	1.0-3.0	-	250
-	056070062003	-	-	70	-	5	18.5	2.0-4.0	-	10
-	111696	-	111772	75	-	6	22	2.0-4.0	-	200
-	111697	-	111773	76.2	3	6	22	2.0-4.0	8-14	200
-	056080062003	-	-	80	-	8	24	3.0-5.0	-	10
-	056090062003	-	-	90	-	7	25	3.5-5.0	-	10
-	056100062003	-	-	100	-	7	24	2.0-4.0	-	10
-	056110062003	-	-	110	-	6	24.5	3.0-5.0	-	10
-	056120062003	-	-	120	-	5	25	2.5-5.0	-	10
-	056140062003	-	-	140	-	6	35	4.0-7.0	-	10

\* Std Pack Qty 500

Coloured Square Inserts

LDPE - Various Colours

- Eroded Head
- Ideal for educational or play equipment



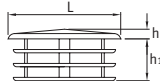
Part Number					Dimensions			Std Pack Qty
Yellow	Red	Green	Blue	Brown	L (mm)	L (ins)	l (mm)	
111844	111845	111846	111847	111848	19.0	3/4	0.8 - 2.5	2500
111871	111872	111873	111874	111875	20.0	-	0.8 - 2.5	2500
111877	111878	111879	111880	111881	25.0	-	1.0 - 2.5	2500
111901	111902	111850	805270	111851	25.4	1	1.0 - 2.5	2500

## TUBE INSERTS

### Lightweight Square Inserts

Preta Polyethylene

- Provide neat, finished appearance
- For wall thicknesses of 1.0 - 2.0mm

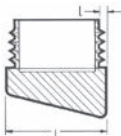
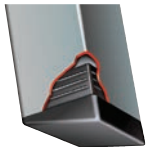


Part Number	Dimensions (mm)			Std Pack Qty
	L	h1	h	
465482	12	9	3	5000
460927	14	10	3	5000
465479	15	11	3	5000
460929	16	10	3	5000
460930	18	10	3	5000
465477	20	11	4	3000
465476	25	15	5	2500
465481	30	15	5	2000
460934	35	15	4	1500
465480	40	16	4	750

### Angled Square Inserts

Black Polyethylene

- Easy assembly
- Durable and long lasting
- Perfect for tube ends or uneven surfaces and for tubes which meet surfaces at an angle



#### Angled Square Inserts (Imperial)

Part Number	Dimensions			Angle	Std Pack Qty
	L (ins)	L (mm)	L (mm)		
199276*	3/4	19.1	1.2-1.6	5°	5000
199277*	3/4	19.1	1.2-1.6	25°	2500
<b>114509268</b>	7/8	22.2	1.2-1.6	25°	2500
199318*	7/8	22.2	1.2-1.6	25°	1250

\* With stacking buffers

#### Angled Square Inserts (Metric)

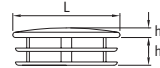
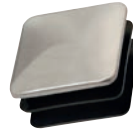
Part Number	Dimensions (mm)			Angle	Std Pack Qty
	L	l	l		
460755	15	1.0-2.0	1.0	10°	1000
460766	16	1.0-2.0	1.0	10°	1000
460767	18	1.0-2.0	1.0	10°	750
466557	20	1.0-2.0	1.0	10°	500
199118*	20	1.2	1.2	5°	2500
199134*	20	1.2	1.2	25°	2500
199132	25	1.0-1.5	1.0	15°	2500

\* With stacking buffers

### Chrome-Plated Square Inserts

Black Polyethylene

- Give neat, polished finish
- Ribbed for ease of fitting and positive fit
- For wall thicknesses of 1.0 - 2.0mm



Part Number	Dimensions (mm)			Std Pack Qty
	L	h1	h	
465341	16	9	2	1000
460959	18	9	2	1000
465340	20	10	2	1000
465343	25	10	2	1000
465342	30	10	3	1000
460964	35	12	3	1000
465344	40	12	3	1000

### Domed Square Inserts

Black Polyethylene

- Add attractive finish to high-quality tubular products



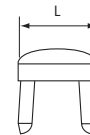
Part Number	Dimensions			Std Pack Qty
	L (ins)	L (mm)	l (mm)	
199130	3/4	19.1	0.7-1.2	2500
111525	-	20.0	0.8-2.0	2500
199163#	7/8	22.2	0.9-1.6	1750
199260	1	25.4	0.9-1.6	1250

# Textured head finish.

### Metal-Pronged Square Inserts

Steel

- Useful for fitting into tubular frames before finishing

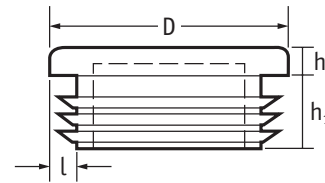


Part Number	Dimensions				Std Pack Qty
	L (mm)	L (ins)	l (gauge)	l (mm)	
PFGS222-16	22.2	7/8	16	1.6	625
PFGS254-16	25.4	1	16	1.6	500
PFGS254-18	25.4	1	18	1.2	500

**TUBE INSERTS**

**Standard Round Ribbed Inserts -  
Preta and Branca**

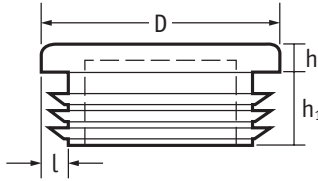
- Ribbed for easy assembly and secure fitting
- Cover sharp tube edges



Part Number				Dimensions						Std Pack Qty
Mid Grey		Dark Grey		D (mm)	D (ins)	h (mm)	h1 (mm)	L (mm)	L (guage)	
Polished	Eroded	Polished	Eroded							
111489	111527	111565	111603	10	-	3.5	11.5	0.8-2.0	-	2500
-	085010069903	-	085010060303	10	-	3.5	12	1.5-2.0	-	500
<b>114503985</b>	111528	111566	111604	12	-	3.5	11.5	0.8-2.0	-	2500
-	085012069903	-	085012060303	12	-	3.5	12	1.5-2.0	-	500
111033	111053	<b>114507997</b>	111093	12.7	1/2	4	11.5	0.8-2.0	12-20	2500
<b>114507148</b>	111054	111074	111094	13	-	4	11.5	0.8-2.0	-	2500
-	465609	-	-	14	-	5	11.5	1.5-2.0	-	2500
-	085014069903	-	085014060303	14	-	5	12	1.5-2.0	-	500
-	465610	-	-	15	-	5	11.5	0.8-2.0	-	2500
-	085015069903	111075	085015060303	15	-	3	12	0.8-2.0	-	500
<b>114507149</b>	<b>114503154</b>	-	<b>114509589</b>	16	5/8	5	11.5	0.8-2.0	12-20	5000
-	085016069903	111567	085016060303	16	-	5	12	0.8-2.0	-	500
111491	111529	111076	111605	18	-	5	11.5	0.8-2.0	-	1500
<b>114507005</b>	111056	111077	<b>114509590</b>	19	3/4	5	11.5	0.8-2.0	12-20	1500
111037	111057	-	111097	20	-	5	11.5	0.8-2.0	-	1500
-	<b>114507551</b>	-	-	21	-	5	11.5	0.8-2.0	-	1500
-	085021069903	111078	085021060303	21	-	5	12	1.5-2.0	-	100
111038	<b>114503224</b>	-	111098	22	7/8	5	11.5	0.8-2.0	12-20	1500
-	085022069903	-	085022060303	22	-	5	12	1.0-3.0	-	100
-	465598	-	-	23	-	5	11.5	0.8-2.5	-	1000
-	085023069903	-	085023060303	23	-	5	12	1.5-2.0	-	100
-	465599	-	-	24	-	5	11.5	1.0-2.5	-	1000
-	085024069903	111079	085024060303	24	-	5	12	1.5-2.0	-	100
<b>114503648</b>	111059	111080	111099	25	-	5	11.5	1.0-3.0	-	1000
111040	111060	-	111100	25.4	1	5	11.5	1.0-3.0	10-18	1000
-	460665	-	-	26	-	5	11.5	1.0-3.0	-	1000
-	085026069903	-	085026060303	26	-	5	12	1.5-2.0	-	100
-	085027069903	111081	085027060303	27	-	5	12	1.0-3.0	-	100
<b>114504468</b>	<b>114508151</b>	111082	111101	28	-	5	12.4	1.0-3.0	-	1000
111042	111062	111083	111102	28.6	1 1/8	5	11.5	1.0-3.0	10-18	1000
111043	111063	-	111103	30	-	5	12.4	1.0-3.0	-	1000
-	085030069903	111084	085030060303	30	-	5	12	1.5-2.0	-	100
<b>114508914</b>	111064	-	-	32	1 1/4	5	11.5	1.0-3.0	10-18	1000
111045	111065	-	111105	34	-	5	11.5	1.0-3.0	-	1000
-	085034069903	-	085034060303	34	-	5	12	1.0-3.0	-	50
<b>114506775</b>	111530	-	111606	35	-	5	11.5	1.0-3.0	-	1500

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Standard Round Ribbed Inserts -  
Preta and Branca *CONTINUED*



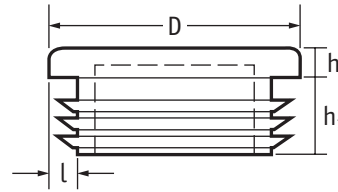
Part Number				Dimensions						Std Pack Qty
Mid Grey		Dark Grey		D (mm)	D (ins)	h (mm)	h1 (mm)	l (mm)	l (gauge)	
Polished	Eroded	Polished	Eroded							
-	085036069903	-	085036060303	36	-	5	12	1.5-2.0	-	50
111493	111531	-	111607	37	-	5	11.5	1.0-3.0	-	1500
-	0850370699 03	-	085037060303	37	-	5	12	1.5-2.0	-	50
111046	111066	111086	111106	38	1 1/2	5	11.5	1.0-3.0	10-18	1000
-	085038069903	-	085038060303	38	-	5	12	1.5-3.5	-	50
199278	-	-	-	38.1	1 1/2	5	14.5	2.0-4.0	8-12	1500
111047	111067	-	111107	40	-	5	11.5	1.0-3.0	-	1000
111495	111533	111571	111609	41.3	1 5/8	5	11.5	1.0-3.0	11-20	1000
<b>114501522</b>	111532	-	111608	42	-	5	11.5	1.0-3.0	-	1000
-	085042069903	-	085042060303	42	-	5	12	0.8-2.5	-	50
-	085043069903	-	085043060303	43	-	5	12	2.0-2.5	-	50
111497	111535	-	111611	44.4	1 3/4	5	11.5	1.0-3.0	11-20	1000
111496	111534	-	111610	45	-	5	11.5	1.0-3.0	-	1000
-	085045069903	-	085045060303	45	-	5	12	0.8-3.5	-	50
111498	111536	111574	111612	47.6	1 7/8	5	11.5	1.0-3.0	11-20	800
-	<b>114508091</b>	-	085049060303	48	-	5	12	1.2-3.6	-	50
111048	111068	-	111108	50	-	5	14.5	1.0-3.0	-	500
-	<b>114501742</b>	-	085050060303	50	-	5	12	1.0-3.0	-	50
111049	111069	111089	111109	50.8	2	5	14.5	1.0-3.0	10-18	500
-	465600	-	-	55	-	5	11.5	1.0-3.0	-	600
-	085055069903	-	<b>114509480</b>	55	-	5	12	1.0-3.0	-	50
<b>114509344</b>	111070	199832	111110	60	-	5	14.5	1.0-3.0	-	400
<b>114504138</b>	-	-	-	60	-	6	20.1	3.5-5.0	-	400
-	085060069903	-	085060060303	60	-	4	19	1.5-3.0	-	25
-	199268	-	-	63.5	2 1/2	6	20	2.0-4.0	8-12	400
111500	111538	-	111614	63.5	2 1/2	5	14.5	1.0-3.0	11-20	250
111499	111537	-	111613	65	-	5	14.5	1.0-3.0	-	250
-	085065069903	-	085065060303	65	-	5	21	1.5-3.5	-	10
-	465601	-	085070060303	70	-	5	21	2.0-4.5	-	300
111051	111071	-	111111	75	-	6	22	2.0-4.0	-	250
-	085076169903	-	085076160303	76.1	-	5	21	1.8-4.0	-	10
-	199271	111092	-	76.2	3	6.2	20.2	1.0-2.0	14-18	250
111052	111072	-	111112	76.2	3	6	22	2.0-4.0	8-14	250
-	465602	-	085080060303	80	-	4	21	1.5-3.0	-	360
-	465603	-	-	85	-	6	21	1.5-4.0	-	250
-	085088969903	-	085080069903	88.9	-	5	21	1.8-4.0	-	10
-	085090069903	-	085090060303	90	-	6	21	2.5-5.0	-	10
-	465604	-	-	90	-	5	20	2.5-5.0	-	250
-	465605	-	-	95	-	6	21	1.5-4.0	-	125
-	<b>114502998</b>	-	460687	100	-	6	28	2.0-4.5	-	80
-	465596	-	-	105	-	6	28	2.0-4.5	-	100
-	465597	-	085110060303	110	-	6	28	2.0-4.5	-	100
-	465607	-	085120060303	120	-	6	28	2.0-4.0	-	60
-	085140069903	-	085140060303	140	-	6	34	2.0-6.5	-	10
-	085150069903	-	085150060303	150	-	6	34	2.0-7.0	-	10
-	085160069903	-	085160060303	160	-	5	34	5.0-7.0	-	10
-	085168369903	-	085168360303	168.3	-	5	34	2.0-6.5	-	10



**TUBE INSERTS**

**Standard Round Ribbed Inserts -  
Mid and Dark Grey**

- Mid Grey similar to RAL7042
- Dark Grey similar to RAL7011



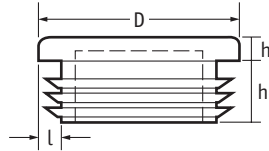
Part Number					Dimensions						Std Pack Qty
Mid Grey		Dark Grey			D (mm)	D (ins)	h (mm)	h1 (mm)	l (mm)	l (guage)	
Polished	Eroded	Polished	Eroded								
111641	111679	111717	111755		10	-	3.5	11.5	0.8-2.0	-	2500
-	085010062003	-	-		10	-	3.5	12	1.5-2.0	-	500
111642	111680	111718	111756		12	-	3.5	11.5	0.8-2.0	-	2500
-	085012062003	-	-		12	-	3.5	12	1.5-2.0	-	500
111113	111114	111173	111153		12.7	1/2	4	11.5	0.8-2.0	12-20	2500
-	085013062003	-	-		13	-	4	12	0.8-2.0	-	500
-	085014062003	-	-		14	-	5	12	1.5-2.0	-	500
-	085015062003	-	-		15	-	3	12	0.8-2.0	-	500
111115	111135	111155	111175		16	5/8	5	11.5	0.8-2.0	12-20	5000
-	085016062003	-	-		16	-	5	12	0.8-2.0	-	500
111643	111681	111719	111757		18	-	5	11.5	0.8-2.0	-	1500
111116	111136	111156	111176		19	3/4	5	11.5	0.8-2.0	12-20	1500
-	085019062003	-	-		19	-	5	12	0.8-2.0	-	100
111117	111137	111157	111177		20	-	5	11.5	0.8-2.0	-	1500
-	085020062003	-	-		20	-	5	12	0.8-2.5	-	100
-	085021062003	-	-		21	-	5	12	1.5-2.0	-	100
111118	111138	111158	111178		22	7/8	5	11.5	0.8-2.0	12-20	1500
-	085022062003	-	-		22	-	5	12	1.0-3.0	-	100
-	085023062003	-	-		23	-	5	12	1.5-2.0	-	100
-	085024062003	-	-		24	-	5	12	1.5-2.0	-	100
111119	111139	111159	111179		25	-	5	11.5	1.0-3.0	-	1000
-	085025062003	-	-		25	-	5	12	1.0-2.5	-	100
111120	111140	111160	111180		25.4	1	5	11.5	1.0-3.0	10-18	1000
-	085026062003	-	-		26	-	5	12	1.5-2.0	-	100
-	085027062003	-	111181		27	-	5	12	1.0-3.0	-	100
111121	111141	111181	-		28	-	5	12.4	1.0-3.0	-	1000
-	085028062003	-	111182		28	-	5	12	1.0-2.5	10-18	100
111122	111142	<b>114509211</b>	111183		28.6	1 1/8	5	11.5	1.0-3.0	-	1000
111123	111143	111163	-		30	-	5	11.5	1.0-3.0	-	1000
-	085030062003	-	111184		30	-	5	12	1.5-2.0	10-18	100
111124	111144	111164	-		32	1 1/4	5	11.5	1.0-3.0	-	1000
-	085032062003	-	111758		32	-	5	12	0.8-2.5	-	100
-	085034062003	111720	-		34	-	5	12	1.0-3.0	-	50
111644	111682	-	-		35	-	5	11.5	1.0-3.0	-	1500
-	085035062003	-	111759		35	-	5	12	1.0-2.5	-	50
-	085036062003	-	-		36	-	5	12	1.5-2.0	-	50
-	111683	-	111186		37	-	5	11.5	1.0-3.0	-	1500
-	085037062003	111166	-		37	-	5	12	1.5-2.0	10-18	50
111126	111146	-	-		38	1 1/2	5	11.5	1.0-3.0	-	1000
-	085038062003	110717	111102		38	-	5	12	1.5-3.5	8-12	50
110662	-	-	111606		38.1	1 1/2	5	14.5	2.0-4.0	-	1500

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**TUBE INSERTS**

**Standard Round Ribbed Inserts -  
Mid and Dark Grey *CONTINUED***

S



Part Number				Dimensions						Std Pack Qty
Mid Grey		Dark Grey		D (mm)	D (ins)	h (mm)	h1 (mm)	l (mm)	l (gauge)	
Polished	Eroded	Polished	Eroded	40	-	5	11.5	1.0-3.0	-	1000
111127	111147	111167	111187	41.3	1 5/8	5	11.5	1.0-3.0	11-20	1000
111647	111685	111723	111761	42	-	5	11.5	1.0-3.0	-	1000
111646	111684	111722	111760	42	-	5	12	0.8-2.5	-	50
-	085042062003	-	-	43	-	5	12	2.0-2.5	-	50
-	085043062003	-	-	44.4	1 3/4	5	11.5	1.0-3.0	11-20	1000
111649	111687	111725	111763	45	-	5	11.5	1.0-3.0	-	1000
111648	111686	111724	111762	45	-	5	12	0.8-3.5	-	50
-	085045062003	-	-	45	-	5	12	1.0-3.0	11-20	800
111650	111688	-	<b>114509210</b>	47.6	1 7/8	5	12	1.2-3.6	-	50
-	085049062003	-	-	48	-	5	14.5	1.0-3.0	-	500
111128	111148	111168	111188	50	-	5	12	1.0-3.0	-	50
-	085050062003	-	-	50	-	5	12	1.0-3.0	-	50
-	085055062003	-	-	55	-	5	12	1.0-3.0	-	50
111130	-	-	-	60	-	5	14.5	1.0-3.0	-	400
-	111690	-	111766	63.5	2 1/2	5	14.5	1.0-3.0	11-20	250
-	085065062003	-	-	65	-	5	21	1.5-3.5	-	10
-	085076162003	-	-	76.1	-	5	21	1.8-4.0	-	10
111131	111152	111172	111192	76.2	3	6	22	2.0-4.0	8-14	250
-	085080062003	-	-	80	-	4	21	1.5-3.0	-	10
-	085088962003	-	-	88.9	-	5	21	1.8-4.0	-	10
-	085090062003	-	-	90	-	6	21	2.5-5.0	-	10
-	085100062003	-	-	100	-	6	28	2.0-4.5	-	10
-	085110062003	-	-	110	-	6	28	2.0-4.5	-	10
-	085120062003	-	-	120	-	6	28	2.0-4.0	-	10
-	085140062003	-	-	140	-	6	34	2.0-6.5	-	10
-	085150062003	-	-	150	-	6	34	2.0-7.0	-	10
-	085160062003	-	-	160	-	5	34	5.0-7.0	-	10
-	085168362003	-	-	168.3	-	5	34	2.0-6.5	-	10

**Standard Round Ribbed  
Inserts - Coloured**

LDPE - Various Colours

- Eroded Head
- Ideal for educational or play equipment

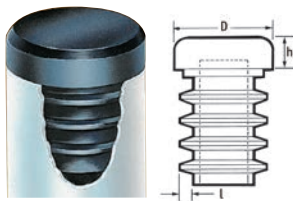


Part Number					Dimensions			Std Pack Qty
Yellow	Red	Green	Blue	Brown	D (mm)	D (ins)	l (mm)	
111818	111820	111821	111822	111823	16.0	5/8	0.8-2.0	2500
111883	111884	111885	111886	111887	18.0	-	0.8-2.0	1500
111906	805197	111907	111908	111825	19.0	3/4	0.8-2.0	1500
111889	111890	111891	111892	111893	20.0	-	0.8-2.0	1500
111870	111827	111828	111909	111911	22.0	7/8	0.8-2.0	1500
111895	111896	111897	111898	111899	25.0	-	1.0-3.0	1000
111830	111831	111832	111833	111834	25.4	1	1.0-3.0	1000
199717	199718	111836	111910	111837	32.0	1 1/4	1.0-3.0	1000

### Heavy-Duty Round Inserts

#### LDPE

- Ideal as heavy-duty feet for tubular products



#### Black Inserts

Part Number	Dimensions				Std Pack Qty
	D (ins)	D (mm)	l (mm)	h (mm)	
199099	3/4	19.5	1.2 - 2.0	6.4	5000
199100	7/8	22.2	1.2 - 2.0	6.4	2500
199085	1	25.4	1.2 - 2.0	7.9	500
199087	1 1/8	28.5	1.2 - 2.0	7.9	1500
199089	1 1/4	31.7	1.2 - 2.0	15.9	500

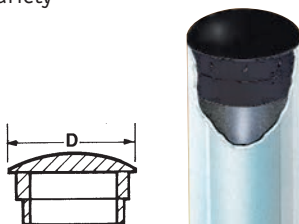
#### Coloured Inserts

Part Number	Colour	Dimensions			Std Pack Qty
		D (mm)	l (mm)	h (mm)	
464525	red	19.5	1.2 - 2.0	6.4	5000
464526	yellow	19.5	1.2 - 2.0	6.4	5000
464527	white	19.5	1.2 - 2.0	6.4	5000
600304	green	19.5	1.2 - 2.0	6.4	5000
600305	blue	19.5	1.2 - 2.0	6.4	5000
468549	red	22.2	1.2 - 2.0	6.4	2500
468550	yellow	22.2	1.2 - 2.0	6.4	2500
468551	white	22.2	1.2 - 2.0	6.4	2500
464524	green	22.2	1.2 - 2.0	6.4	2500
464616	blue	22.2	1.2 - 2.0	6.4	2500

### Lightweight Round Inserts

#### Black Polyethylene

- Easy assembly
- Offer a high-quality finish to a variety of tubular products
- Imperial range with plain shank
- Metric range with ribbed shank



#### Plain Shank (Imperial)

Gauge	Part Number	Gauge	Head Size		Std Pack Qty
			D		
			(ins)	(mm)	
16	199091	18	1/2	12.7	10000
199091	199093	-	5/8	15.8	10000
199004	199006	199008	3/4	19.0	5000
199076	199078	199080	3/4	19.0	5000
199232**	199232**	199232**	7/8	22.2	7000
10755	199052	-	1	25.4	5000
199069	199070	199071	1 1/8	28.6	4000
199072	199073	-	1 1/4	31.7	2500
199067	199068	-	1 3/8	34.9	2500
199119	199120	-	1 1/2	38.1	2000
114509523	199084	-	1 3/4	44.4	1500
199030	-	-	2	50.8	800
-	11316	-	-	-	-

\*\* Ribbed short shank.

### Chrome-Plated Round Inserts

#### Black Polyethylene

- Attractive chrome-plated finish provides enhanced aesthetic appearance
- Ribbed for ease of insertion and positive fit



Part Number	Dimensions (mm)				Std Pack Qty
	Wall Thickness	D	h	h1	
465335	1.5	13.0	8.0	2.0	4000
463586	1.5	16.0	10.0	2.0	2000
465333	1.5	18.0	10.0	2.0	2000
465336	1.5	19.0	10.0	2.0	3000
465338	1.5	20.0	10.0	3.0	2000
465334	1.5	22.0	11.0	3.0	2000
462994	1.5	25.0	15.0	3.0	2000
463587	1.5	28.0	15.0	3.0	2000
463020	1.5	30.0	16.0	3.0	2000
463588	1.5	32.0	16.0	3.0	2000
463021	1.5	35.0	16.0	3.0	2000
465337	1.5	38.0	16.0	3.0	1000
463022	1.5	40.0	16.0	3.0	1000
465339	1.5	45.0	16.0	3.0	750
463023	1.5	50.0	12.0	3.0	200
465332	1.5	60.0	12.0	3.0	200

#### Ribbed (Metric)

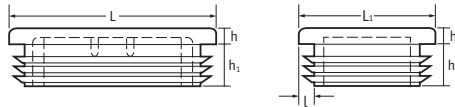
Part Number	Dimensions (mm)				Std Pack Qty
	D	Wall Thickness	Shank Height	Head Height	
466562	10	0.8-1.5	11.5	2	5000
466563	12	1.5-2.0	11.5	2	5000
466564	14	1.5-2.0	11.5	3	5000
466565	15	0.8-2.0	11.5	3	2500
466566	16	0.8-2.0	11.5	3	2500
466567	18	0.8-2.0	11.5	3	2000
466568	19	0.8-2.0	11.5	3	2000
466569	20	0.8-2.5	11.5	3	2000
466570	22	1.0-2.5	11.5	3	2000
466571	24	1.0-2.5	11.5	3	2000
466572	25	1.0-2.5	11.5	3	3500
466573	28	0.8-2.5	11.5	3	3000
466574	30	0.8-2.5	11.5	3	2500
466575	32	0.8-2.5	11.5	3	2250
466576	35	1.0-3.0	11.5	3	1750
466577	38	1.0-3.0	11.5	3	1500
466578	40	1.0-3.0	11.5	3	1500
460789	42	0.8-2.5	11.5	3	1250
466579	45	1.0-3.0	11.5	3	1000
466580	50	1.0-2.5	11.5	3	800
466581	55	1.0-3.0	14.5	3	700
466582	60	1.5-3.0	18.0	3	500

TUBE INSERTS

Ribbed Rectangular Inserts

LDPE

- Ideal for most popular sizes and gauges of rectangular tubes



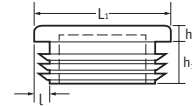
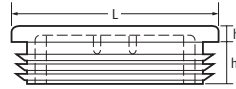
Preta& Branca

Part Number				Dimensions						Std Pack Qty
Preta		Branca		L x L1 (mm)	L x L1 (ins)	h (mm)	h1 (mm)	l (mm)	l (gauge)	
Polished	Eroded	Polished	Eroded							
111337	111354	-	-	20 x 10	-	3	11.5	0.8 - 2.0	-	2000
-	57201069903	-	57201060303	20 x 10	-	3	11.5	1.0-2.0	-	100
-	57201269903	-	57201260303	20 x 12	-	2	9.5	1.0-1.5	-	100
-	498698	-	-	20 x 15	-	3	11.5	1.0 - 2.0	-	2000
-	57201569903	-	57201560303	20 x 15	-	5	11.5	1.0-1.5	-	100
-	57201669903	-	57201660303	20 x 16	-	5	11.5	1.5-2.0	-	100
111338	111355	-	-	25 x 10	-	3	11.5	0.8 - 2.0	-	2000
-	57251069903	-	57251060303	25 x 10	-	4	11.5	1.5-2.0	-	100
-	462363	-	-	25 x 12	-	3	11.5	1.0 - 2.0	-	1000
-	498699	-	-	25 x 15	-	5	11.5	0.8 - 2.5	-	1000
-	57251569903	-	57251560303	25 x 15	-	5	11.5	1.0-2.5	-	100
-	498700	-	-	25 x 20	-	5	11.5	1.0 - 3.0	-	1000
-	57252069903	-	57252060303	25 x 20	-	5	11.5	1.5-2.0	-	100
111339	111356	-	-	25.4 x 12.7	1 x 1/2	3	11.5	0.8 - 2.0	14-20	2000
-	498701	-	-	30 x 10	-	3	11.5	0.75 - 2.0	-	1000
199254	-	-	-	30 x 10	-	5	12	1.0 - 1.5	-	5000
-	57301069903	-	57301060303	30 x 10	-	4	11.5	1.5-2.0	-	100
111340	111357	111374	111391	30 x 15	-	5	11.5	1.0 - 3.0	-	1000
-	57301569903	-	57301560303	30 x 15	-	5	12	1.0-2.0	-	100
114507750	111358	-	-	30 x 20	-	5	11.5	1.0 - 3.0	-	1000
-	57302069903	-	57302060303	30 x 20	-	6	12	1.0-2.0	-	100
-	498702	-	-	30 x 25	-	5	13.5	1.5 - 2.0	-	1000
-	57302569903	-	57302560303	30 x 25	-	5	13.5	1.5-1.5	-	100
111508	111546	-	111622	34.9 x 15.9	1 3/8 x 5/8	4	11.5	1.0 - 3.0	11-20	2500
-	498703	-	-	35 x 15	-	3.5	11.5	1.0 - 3.0	-	1000
-	57351569903	-	57351560303	35 x 15	-	5	11.5	1.0-3.0	-	100
-	460715	-	-	35 x 10	-	3.5	11.5	0.75 - 2.0	-	1000
114507751	111547	-	111623	35 x 20	-	5	11.5	1.0 - 3.0	-	2000
-	57352069903	-	57352060303	35 x 20	-	5	11.5	1.5-2.5	-	100
-	114507752	-	57352560303	35 x 25	-	5	11.5	1.5-2.0	-	100
111343	111360	111377	-	38.1 x 19.1	1 1/2 x 3/4	5	11.5	1.0 - 3.0	10-18	1000
199203	-	-	-	38.1 x 19.1	1 1/2 x 3/4	5	11.5	1.0 - 2.0	14-18	2500
111510	111548	-	111624	38.1 x 25.4	1 1/2 x 1	5	11.5	1.0 - 3.0	11-20	2000
-	57401069903	-	57401060303	40 x 10	-	5	11	1.0-3.0	-	100
-	498704	-	-	40 x 15	-	5	11.7	1.5 - 2.0	-	1000
-	57401569903	-	57401560303	40 x 15	-	5	11.7	1.0-3.0	-	100
114506732	111361	111378	-	40 x 20	-	5	11.5	1.0 - 3.0	-	1000
-	57402069903	-	57402060303	40 x 20	-	6	14.5	1.5-2.0	-	100
114502033	111549	-	111625	40 x 25	-	5	11.5	1.0 - 3.0	-	1500
10175	497831	-	-	40 x 27	-	5	11.5	1.2 - 1.7	-	1500
114505621	111362	-	-	40 x 30	-	5	11.5	1.0 - 3.0	-	1000
-	498705	-	-	45 x 15	-	5	11	1.5 - 2.0	-	1000

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**TUBE INSERTS**

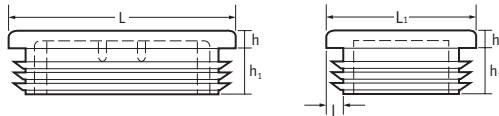
**Ribbed Rectangular Inserts** *CONTINUED*



Part Number				Dimensions						Std Pack Qty
Preta		Branca		L x L1 (mm)	L x L1 (ins)	h (mm)	h1 (mm)	l (mm)	l (gauge)	
Polished	Eroded	Polished	Eroded							
-	460722	-	-	45 x 20	-	5	11.5	1.0 - 3.0	-	2000
-	57452069903	-	57452060303	45 x 20	-	5	11.5	1.5 - 2.0	-	100
-	460723	-	-	45 x 25	-	5	11.5	1.0 - 3.0	-	1250
-	57452569903	-	57452560303	45 x 25	-	5	11.5	1.5 - 2.0	-	50
-	460724	-	-	45 x 30	-	5	11.5	1.0 - 2.5	-	1250
-	57501069903	-	57501060303	50 x 10	-	3.5	11.5	0.8 - 2.0	-	50
<b>114503595</b>	111363	-	-	50 x 20	-	5	11.5	1.0 - 3.0	-	1000
-	57502069903	-	57502060303	50 x 20	-	5	14.5	1.0 - 3.0	-	50
111347	111364	111381	-	50 x 25	-	5	11.5	1.0 - 3.0	-	1000
-	57502569903	-	57502560303	50 x 25	-	5	14.5	1.0 - 3.0	-	50
<b>114507668</b>	111366	111383	-	50 x 30	-	5	11.5	1.0 - 3.0	-	1000
-	57503069903	-	57503060303	50 x 30	-	5	14.5	1.0 - 3.0	-	50
111512	111550	-	111626	50.8 x 31.8	2 x 1 1/4	5	11.5	1.0 - 3.0	11-20	1000
-	57503469903	-	57503460303	50 x 34	-	5	14.5	1.0 - 3.5	-	50
-	498706	-	-	50 x 40	-	5	12	1.5 - 2.0	-	1000
-	57504069903	-	57504060303	50 x 40	-	5	12	1.0 - 3.0	-	50
111348	111365	111382	-	50.8 x 25.4	2 x 1	5	11.5	1.0 - 3.0	10-18	1000
-	57553469903	-	57553460303	55 x 34	-	5	14.5	1.5 - 4.0	-	25
111513	111551	-	<b>114508512</b>	60 x 20	-	5	14.5	1.0 - 3.0	-	1000
-	57602069903	-	57602060303	60 x 20	-	5	14.5	1.5 - 2.0	-	25
<b>114500022</b>	18422	-	-	60 x 25	-	5	11.5	3.0 - 4.5	-	1000
-	57602569903	-	57602560303	60 x 25	-	5	14.5	1.0 - 2.5	-	25
<b>114505800</b>	111482	-	-	60 x 30	-	5	14.5	1.0 - 3.0	-	500
111350	111367	<b>114509477</b>	111401	60 x 30	-	5	14.5	2.0 - 4.0	-	500
-	57603069903	-	57603060303	60 x 30	-	5	14.5	1.0 - 2.5	-	25
111802	111803	-	57604060303	60 x 40	-	5	14.5	1.0 - 3.0	-	500
111351	111368	-	-	60 x 40	-	5	14.5	2.0 - 4.0	-	500
-	57605069903	-	57605060303	60 x 50	-	5	14.5	1.5 - 3.5	-	25
10913	-	-	-	63.5 x 25.4	2 1/2 x 1	5	11.5	1.0 - 2.0	16-18	1000
199184	-	-	-	63.5 x 25.4	2 1/2 x 1	5.5	11.5	1.0 - 2.0	16-18	1000
199238	-	-	-	63.5 x 38.1	2 1/2 x 1 1/2	6.2	18	2.0 - 2.5	12-16	500
460726	57702069903	-	57702060303	70 x 20	-	5	18.8	1.0 - 2.0	-	500
-	498707	-	57702560303	70 x 25	-	5	17	1.0 - 2.0	-	500
-	57703069903	-	57703060303	70 x 30	-	5.7	17.7	1.0 - 2.0	-	25
-	57704069903	-	57704060303	70 x 40	-	5	17.1	1.0 - 2.0	-	10
-	57705069903	-	57705060303	70 x 50	-	5	14.5	2.0 - 5.0	-	10
-	199283	-	-	75 x 25	-	5	13	1.5 - 2.0	-	500
111514	111552	-	111628	76.2 x 38.1	3 x 1 1/2	6	14.5	2.0 - 4.0	8-14	250
111515	111553	-	111629	75 x 50	-	6	22	2.0 - 4.0	-	250
111516	111554	-	111630	76.2 x 50.8	3 x 2	6	22	2.0 - 4.0	8-14	250
-	498708	-	-	70 x 30	-	5.7	17.7	1.0 - 2.0	-	500
-	498709	-	-	70 x 40	-	5	17.1	1.0 - 2.0	-	500
-	498710	-	-	70 x 50	-	5	14.5	1.0 - 2.0	-	350
-	498711	-	57802060303	80 x 20	-	6	17.6	1.0 - 2.0	-	600
-	498712	-	-	80 x 25	-	5	14.5	1.0 - 2.0	-	550
-	498713	-	57803060303	80 x 30	-	5	14.5	1.0 - 2.5	-	500

TUBE INSERTS

Ribbed Rectangular Inserts *CONTINUED*



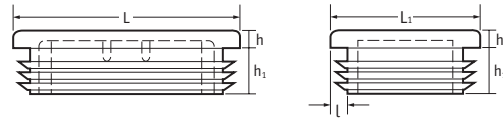
Preta e Branca

Part Number				Dimensions						Std Pack Qty
Preta		Branca		L x L1 (mm)	L x L1 (ins)	h (mm)	h1 (mm)	l (mm)	l (gauge)	
Polished	Eroded	Polished	Eroded							
<b>114505442</b>	57804069903	-	57804060303	80 x 40	-	5	14.5	1.0 - 3.0	-	250
111352	111369	-	111403	80 x 40	-	5	14.5	2.0 - 4.0	-	250
111353	111370	-	-	80 x 50	-	5	22	2.0 - 4.0	-	250
-	57805069903	-	57805060303	80 x 50	-	5	24.5	2.0 - 4.0	-	10
-	<b>114509494</b>	-	57806060303	80 x 60	-	5	24	1.5 - 3.5	-	150
-	460735	-	-	90 x 20	-	5	14.5	1.5 - 2.0	-	600
-	460736	-	-	90 x 40	-	5	14.5	2.0 - 4.0	-	300
-	498715	-	57807060303	90 x 50	-	6	21.5	2.0 - 4.5	-	200
-	57808069903	-	57808060303	90 x 70	-	6	21.5	3.0 - 5.5	-	10
-	498691	-	-	100 x 20	-	5	14.5	1.5 - 3.0	-	500
-	498692	-	-	100 x 25	-	5	14.5	1.5 - 3.0	-	450
-	460740	-	57809060303	100 x 30	-	5	14.5	1.5 - 3.5	-	350
-	199231	-	199712	100 x 40	-	7.2	19	2.0 - 4.0	-	250
-	57810069903	-	57810060303	100 x 40	-	5	14.5	1.5 - 4.0	-	25
-	199195	-	-	100 x 50	-	8	18.5	2.0 - 4.0	-	200
-	57811069903	-	57811060303	100 x 50	-	5	24	2.0 - 3.0	-	10
-	498693	-	57812060303	100 x 60	-	6	24.5	2.5 - 4.5	-	125
-	498694	-	57813060303	100 x 80	-	6	24	3.0 - 5.5	-	100
-	57814069903	-	57814060303	110 x 60	-	6	24	3.5 - 5.5	-	10
-	57815069903	-	57815060303	110 x 70	-	6	24	3.0 - 5.0	-	10
-	460743	-	57903060303	120 x 30	-	5	14.5	1.5 - 2.0	-	300
-	498696	-	57904060303	120 x 40	-	6	21.5	3.0 - 5.0	-	200
-	498689	-	57905060303	120 x 50	-	6	21.5	3.0 - 5.5	-	150
111517	111555	111593	111631	120 x 60	-	6	22	2.0 - 4.0	-	100
-	57906069903	-	57906060303	120 x 60	-	5	24.5	2.0 - 4.0	-	10
498697	57908069903	-	57908060303	120 x 80	-	5	24.5	2.0 - 3.0	-	75
-	498695	-	57910060303	120 x 100	-	6	24	3.5 - 6.0	-	60
-	57912069903	-	57912060303	140 x 80	-	5	24.5	2.0 - 4.5	-	10
-	460749	-	57913060303	150 x 50	-	6	28	2.0 - 4.0	-	100
-	498690	-	57914060303	150 x 100	-	7	27.5	3.0 - 8.0	-	100

**TUBE INSERTS**

**Ribbed Rectangular Inserts**

- Mid Grey similar to RAL 7042
- Dark Grey similar to RAL 7011



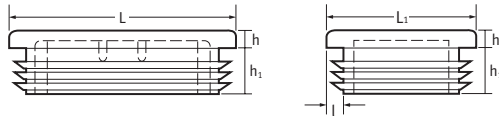
Mid & Dark Grey

Part Number				Dimensions						Std Pack Qty
Mid Grey		Dark Grey		L x L1 (mm)	L x L1 (ins)	h (mm)	h1 (mm)	l (mm)	l (gauge)	
Polished	Eroded	Polished	Eroded							
-	57201062003	-	-	20 x 10	-	3	11.5	1.0 - 2.0	-	100
-	57201262003	-	-	20 x 12	-	2	9.5	1.0 - 1.5	-	100
-	57201562003	-	-	20 x 15	-	5	11.5	1.0 - 1.5	-	100
-	57201662003	-	-	20 x 16	-	5	11.5	1.5 - 2.0	-	100
111406	<b>114508947</b>	-	-	25 x 10	-	3	11.5	0.8 - 2.0	-	2000
-	57251062003	-	-	25 x 10	-	4	11.5	1.5 - 2.0	-	100
-	57251562003	-	-	25 x 15	-	5	11.5	1.0 - 2.5	-	100
-	57252062003	-	-	25 x 20	-	5	11.5	1.5 - 2.0	-	100
-	57301062003	-	-	30 x 10	-	4	11.5	1.5 - 2.0	-	100
111408	-	111442	-	30 x 15	-	5	11.5	1.0 - 3.0	-	1000
-	57301562003	-	-	30 x 15	-	5	12	1.0 - 2.0	-	100
-	-	111443	-	30 x 20	-	5	11.5	1.0 - 3.0	-	1000
-	57302062003	-	-	30 x 20	-	6	12	1.0 - 2.0	-	100
-	57302562003	-	-	30 x 25	-	5	13.5	1.5 - 1.5	-	100
-	111698	-	111774	34.9 x 15.9	1 3/8 x 5/8	4	11.5	1.0 - 3.0	11-20	2500
-	57351562003	-	-	35 x 15	-	5	11.5	1.0 - 3.0	-	100
-	111699	-	111775	35 x 20	-	5	11.5	1.0 - 3.0	-	2000
-	57352062003	-	-	35 x 20	-	5	11.5	1.5 - 2.5	-	100
-	57302562003	-	-	35 x 25	-	5	11.5	1.5 - 2.0	-	100
-	111428	-	-	38.1 x 19.1	1 1/2 x 3/4	5	11.5	1.0 - 3.0	10-18	1000
-	111700	-	-	38.1 x 25.4	1 1/2 x 1	5	11.5	1.0 - 3.0	11-20	2000
-	57401062003	-	-	40 x 10	-	5	11	1.0 - 3.0	-	100
-	57401562003	-	-	40 x 15	-	5	11.7	1.0 - 3.0	-	100
-	111429	-	111463	40 x 20	-	5	11.5	1.0 - 3.0	-	1000
-	57402062003	-	-	40 x 20	-	6	14.5	1.5 - 2.0	-	100
-	111701	-	111777	40 x 25	-	5	11.5	1.0 - 3.0	-	1500
-	57403062003	-	-	40 x 30	-	5	11.5	1.0 - 3.0	-	100
-	57452062003	-	-	45 x 20	-	5	11.5	1.5 - 2.0	-	100
-	57452562003	-	-	45 x 25	-	5	11.5	1.5 - 2.0	-	50
-	57501062003	-	-	50 x 10	-	3.5	11.5	0.8 - 2.0	-	50
-	57502062003	-	-	50 x 20	-	5	14.5	1.0 - 3.0	-	50
111415	111432	111449	111466	50 x 25	-	5	11.5	1.0 - 3.0	-	1000
-	57502562003	-	-	50 x 25	-	5	14.5	1.0 - 3.0	-	50
-	111434	-	111468	50 x 30	-	5	11.5	1.0 - 3.0	-	1000
-	57503062003	-	-	50 x 30	-	5	14.5	1.0 - 3.0	-	50
-	111702	-	-	50.8 x 31.8	2 x 1 1/4	5	11.5	1.0 - 3.0	11-20	1000
-	57503462003	-	-	50 x 34	-	5	14.5	1.0 - 3.5	-	50
-	57504062003	-	-	50 x 40	-	5	12	1.0 - 3.0	-	50
111416	111433	-	111467	50.8 x 25.4	2 x 1	5	11.5	1.0 - 3.0	10-18	1000
-	57553462003	-	-	55 x 34	-	5	14.5	1.5 - 4.0	-	25

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TUBE INSERTS

Ribbed Rectangular Inserts *CONTINUED*



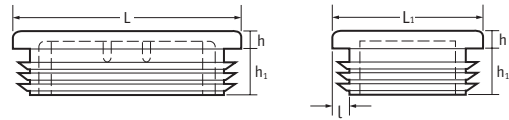
Mid & Dark Grey

Part Number				Dimensions						Std Pack Qty
Mid Grey		Dark Grey		L x L1 (mm)	L x L1 (ins)	h (mm)	h1 (mm)	l (mm)	l (gauge)	
Polished	Eroded	Polished	Eroded							
-	111703	-	111779	60 x 20	-	5	14.5	1.0 - 3.0	-	1000
-	57602062003	-	-	60 x 20	-	5	14.5	1.5 - 2.0	-	25
-	57602562003	-	-	60 x 25	-	5	14.5	1.0 - 2.5	-	25
111418	-	111452	-	60 x 30	-	5	14.5	2.0 - 4.0	-	500
-	57603062003	-	-	60 x 30	-	5	14.5	1.0 - 2.5	-	25
111806	-	111808	-	60 x 40	-	5	14.5	1.0 - 3.0	-	500
111419	-	111453	-	60 x 40	-	5	14.5	2.0 - 4.0	-	500
-	57605062003	-	-	60 x 50	-	5	14.5	1.5 - 3.5	-	25
-	57702062003	-	-	70 x 20	-	5	18.8	1.0 - 2.0	-	25
-	57702562003	-	-	70 x 25	-	5	17	1.0 - 2.0	-	25
-	57703062003	-	-	70 x 30	-	5.7	17.7	1.0 - 2.0	-	25
-	57704062003	-	-	70 x 40	-	5	17.1	1.0 - 2.0	-	10
-	57705062003	-	-	70 x 50	-	5	14.5	1.0 - 2.0	-	10
-	111705	-	111781	75 x 50	-	6	22	2.0 - 4.0	-	250
-	-	-	111782	76.2 x 50.8	3 x 2	6	22	2.0 - 4.0	8-14	250
-	57802062003	-	-	80 x 20	-	6	17.6	1.0 - 2.0	-	600
-	57803062003	-	-	80 x 30	-	5	14.5	1.0 - 2.5	-	500
-	57804062003	-	-	80 x 40	-	5	14.5	1.0 - 3.0	-	250
-	-	-	111471	80 x 40	-	5	14.5	2.0 - 4.0	-	250
-	57805062003	-	-	80 x 50	-	5	24.5	2.0 - 4.0	-	10
-	057806062003	-	-	80 x 60	-	5	24	1.5 - 3.5	-	10
-	057905062003	-	-	90 x 50	-	6	21.5	2.0 - 4.5	-	10
-	57907062003	-	-	90 x 70	-	6	21.5	3.0 - 5.5	-	10
-	057809062003	-	-	100 x 30	-	5	14.5	1.5 - 3.5	-	25
-	57810062003	-	-	100 x 40	-	5	14.5	1.5 - 4.0	-	25
-	57811062003	-	-	100 x 50	-	5	24	2.0 - 3.0	-	10
-	057812062003	-	-	100 x 60	-	6	24.5	2.5 - 4.5	-	10
-	057813062003	-	-	100 x 80	-	6	24	3.0 - 5.5	-	10
-	57814062003	-	-	110 x 60	-	6	24	3.5 - 5.5	-	10
-	57815062003	-	-	110 x 70	-	6	24	3.0 - 5.0	-	10
-	057903062003	-	-	120 x 30	-	5	14.5	1.5 - 2.0	-	10
-	057904062003	-	-	120 x 40	-	6	21.5	3.0 - 5.0	-	10
-	057905062003	-	-	120 x 50	-	6	21.5	3.0 - 5.5	-	10
-	111707	-	111783	120 x 60	-	6	22	2.0 - 4.0	-	10
-	57906062003	-	-	120 x 60	-	5	24.5	2.0 - 4.0	-	10
-	57908062003	-	-	120 x 80	-	5	24.5	2.0 - 3.0	-	10
-	057910062003	-	-	120 x 100	-	6	24	3.5 - 6.0	-	10
-	57912062003	-	-	140 x 80	-	5	24.5	2.0 - 4.5	-	10
-	057913062003	-	-	150 x 50	-	6	28	2.0 - 4.0	-	10
-	057914062003	-	-	150 x 100	-	7	27.5	3.0 - 8.0	-	10



**TUBE INSERTS**

**Ribbed Rectangular Inserts** *CONTINUED*



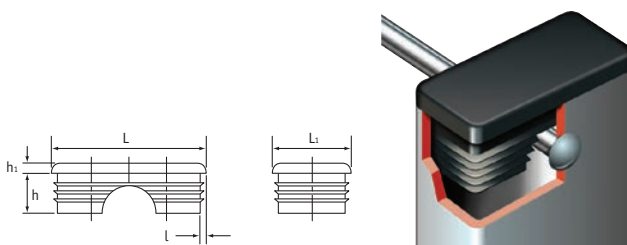
Coloured (eroded head)

Part Number						Dimensions		Std Pack Qty
Yellow	Red	Green	Blue	Brown	Silver	L x L1 (mm)	l (mm)	
111859	111860	111861	111862	111863	803895	50.8 x 25.4	1.0 - 3.0	1000

**Centrally-Notched Rectangular Inserts**

LDPE

- Ideal for use with fixed-position bolts, screws and studs
- Spark-eroded finish
- Available in a variety of colours
- To suit wall section 1.0-2.0mm



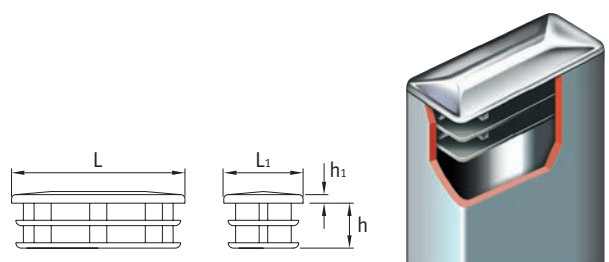
Part Number	Colour	RAL ref.	Dimensions			Std Pack Qty
			L x L1 (mm)	h1 (mm)	h (mm)	
110721	Preta	-	50.4 x 25.4	4.5	15.5	1000

**Chrome-Plated Cap Rectangular Inserts**

SR 1553

PretaPolyethylene

- Ribbed for ease of insertion and positive fit
- Chrome-plated cap provides enhanced aesthetic appearance
- To suit wall section 1.0-2.0mm

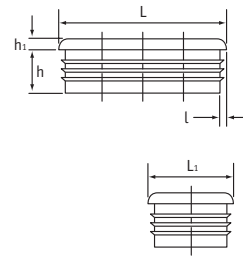


Part Number	Dimensions (mm)			Std Pack Qty
	L x L1	h	h1	
460966	10 x 20	10	1.5	1000
460967	15 x 20	10	2.0	1000
460968	15 x 30	10	2.0	1000
460969	20 x 40	11	2.0	1000

**TUBE INSERTS**

**Ribbed Oval Inserts**

- Easy assembly
- Spark-eroded surface unless otherwise stated
- Secure fixing
- Straight sides
- Mid Grey similar to RAL 7042
- Dark Grey similar to RAL 7011



**Flat Oval (Metric)**

Part Number				Dimensions				Std Pack Qty
Preta	Branca	Dark Grey	Mid Grey	L x L1 (mm)	h (mm)	h1 (mm)	l (gauge)	
460794*	-	-	-	20 x 10	10.0	5	1.5-2.0	4000
145201069903	145201060303	-	145201062003	20 x 10	11.5	5	1.5-2.0	250
<b>114509185</b>	111632	111786†	111708†	30 x 15	-	-	0.8-2.0	3000
460796	-	-	-	35 x 15	-	-	1.2-2.5	3000
145351569903	145351560303	-	145351562003	35 x 15	11.5	5	1.2-2.5	250
460797	-	-	-	35 x 20	-	-	1.0-3.0	2500
145352069903	145352060303	-	145352062003	35 x 20	11.5	5	1.5-2.0	250
465578	-	-	-	38 x 20	-	-	1.0-3.0	2500
145382069903	145352060303	-	145382062003	38 x 20	11.5	5	1.0-3.0	250
145402069903	145402060303	111786	145402062003	40 x 20	11.5	4	1.5-2.0	100
111558	111634	-	111710	40 x 20	-	-	1.0-3.0	2500
145482069903	145482060303	-	145482062003	48 x 20	11.5	5	1.5-2.0	100
460800	-	-	-	50 x 20	-	-	1.0-3.0	1500
145502069903	145502060303	-	145502062003	50 x 20	11.5	5	1.0-3.0	100
465579	-	-	-	50 x 25	-	-	1.0-2.5	1250
145502569903	145502560303	-	145502562003	50 x 25	11.5	5	1.0-2.5	50
465580	-	-	-	50 x 30	-	-	1.0-2.5	1000
145503069903	145503060303	-	145503062003	50 x 30	11.5	5	1.0-2.5	50
465581	-	-	-	60 x 20	-	-	1.0-2.0	1000
465582	-	-	-	60 x 30	-	-	1.0-2.0	750

\* Polished † Packed in 2500

**Imperial**

Part Number	Dimensions				Std Pack Qty
Preta	L x L1 (mm)	h (mm)	h1 (mm)	l (gauge)	
111557	1 1/4 x 5/8	11.5	3.5	11-20	3000

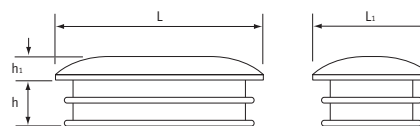
**Chrome Oval Inserts**

**Preta Polyethylene**

- Add attractive finish to high-quality tubular products

- Chrome-plated cap provides enhanced appearance
- Ribbed for ease of entry and positive fit
- Fit gauge 1.0-1.5mm

Part Number	Dimensions			Std Pack Qty
	L x L1 (mm)	h (mm)	h1 (mm)	
PMO200100	20 x 10	10	2.0	3000
463024	30 x 15	10	2.5	3000
465360	40 x 20	10	3.0	500

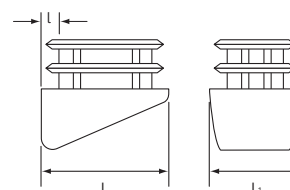


**Angled Oval Inserts**

**Preta Polyethylene**

- Durable and long lasting
- Perfect for tube ends which meet surfaces at an angle

Part Number	Dimensions		Angle	Std Pack Qty
	L x L1 (mm)	l (mm)		
465327	30 x 15	1.2-1.5	12.5°	1000
<b>114509186</b>	30 x 15	1.2-1.5	30.0°	2000

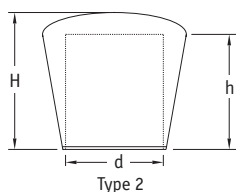
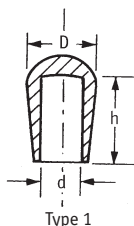


### Tapered

#### Ferruleless

##### PVC

- Choice of black or white
- Ideal as protective cap for protruding wire, steel rods or bars
- Give neat finish to tubular products
- Flexible for easy fitting



#### Type 1 (Imperial) - Black

Part Number	Dimensions						Std Pack Qty
	d		D		h		
	(ins)	(mm)	(ins)	(mm)	(ins)	(mm)	
50323	3/16	4.8	13/32	10.3	15/32	11.9	10000
50379	1/4	6.3	13/32	10.3	15/32	11.9	10000
12923	5/16	7.9	1/2	12.7	9/16	14.3	10000
60423*	5/16	7.9	33/64	15.5	29/32	20.0	5000
50978	3/8	9.5	19/32	15.1	5/8	15.8	2500
51110*	1/2	12.7	47/64	18.6	29/32	23.0	4000

\* Low-density polyethylene.

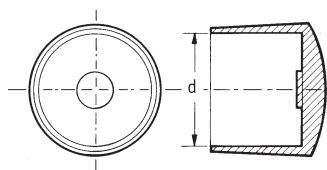
#### Type 2 (Metric)

Part Number		Dimensions (mm)			Std Pack Qty
Black	White	d	H	h	
497438	497439	4.0	11.0	9.0	5000
497451	497445	5.0	13.0	10.0	5000
497426	497427	6.0	14.0	11.0	5000
497434	497435	8.0	16.0	13.0	5000
497428	497429	10.0	18.0	14.0	5000
497436	497437	12.0	21.0	17.0	3000
497432	497433	14.0	23.0	18.0	2000
460870	460880	16.0	25.0	20.0	2000
497442	497443	18.0	27.0	22.0	2000
497424	497425	20.0	30.0	24.0	1000
497422	497423	22.0	32.0	26.0	1000
497430	497431	25.0	36.0	30.0	750
497448	600233	28.0	38.0	32.0	500
497446	497447	30.0	41.0	34.0	500
497440	497441	32.0	43.0	39.0	400
497444	497449	35.0	47.0	40.0	250

### Round Ferrules

#### LDPE

- Choice of black or white
- Gives neat finish to tubular products
- Gloss finish as standard



#### Imperial

Part Number		d		Std Pack Qty
Black	White	(ins)	(mm)	
51216	-	7/16	11.1	10000
114503359	50829	1/2	12.7	10000
114502886	52048	5/8	15.8	5000
114502882	114509591	3/4	19.0	4000
11761#	-	3/4	19.0	2500
114502883	10256	7/8	22.2	2500
114502884	10263	1	25.4	1500
50248	10519	1 1/16	26.9	600
114505674	52001	1 1/8	28.6	1200
114505285	12358	1 1/4	31.7	800
199124	-	1 3/8	34.9	1000
114502885	-	1 1/2	38.1	500
199039	-	1 3/4	44.4	500
199205	-	2	50.8	300
199082	-	3	76.2	150

# Heavy-duty ferrule.

#### Metric

Part Number		d	Std Pack Qty
Black	White	(mm)	
460843	-	15.0	2000
460844	460854	16.0	2500
465377	465374	18.0	2500
465373	600252	20.0	2000
460847	460857	22.0	2000
460848	460858	24.0	2000
465372	465483	25.0	2000
460850	460860	26.0	2000
465376	-	28.0	2000
465375	465371	30.0	1500

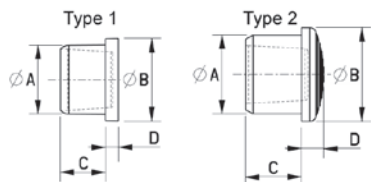


Tube Plug



Black LDPE or PVC

- Strong yet flexible to fit in tube ends
- Neat finish through small collar
- Type 1 LDPE, Type 2 PVC

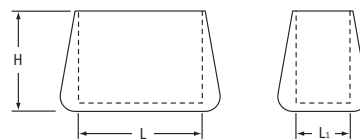


Part Number	Dimensions (mm)					Std Pack Qty
	A	B	C	D	Type	
045080022003	8	11	8	2.5	1	500
045100022003	10	13	8	2.5	1	500
045120022003	12	15	10	3	1	500
045130022003	13	16	10	3	1	500
045140022003	14	17	10	3	1	500
045150022003	15	18	10	3	1	500
045160022003	16	19	12	3.5	1	500
045170022003	17	20	12	3.5	1	500
045180022003	18	22	12	3.5	1	500
045190069907	19	25	20	6	2	100
045200069907	20	25	20	7	2	100
045210069907	21	26	20	7	2	100
045220011407	22	27	20	7	2	100
045230069907	23	29	20	7	2	100
045240069907	24	29	20	8	2	100
045250069907	25	30	20	8	2	100
045260069907	26	32	20	9	2	100
045270069907	27	31	20	9	2	100
045280011407	28	35	22	7	2	100
045290011407	29	36	22	7	2	50
045400069907	40	45	25	9	2	10

Oval Ferrule

Black PVC

- Provide neat finish to oval-shaped tubes
- Cover sharp tube edges
- Flexible and easy to fit

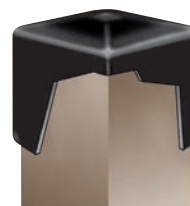
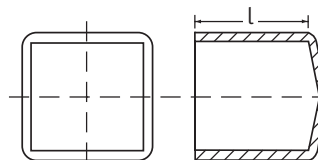


Part Number	Dimensions (mm)		Std Pack Qty
	L x L1	H	
465370	30 x 15	24.0	1500

Square Gloss Caps

Black Flexible PVC

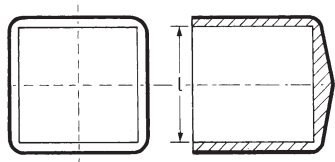
- Ideal for finishing tubular products
- Flexible and easy to fit
- Give attractive gloss finish



Square Ferrules

Black LDPE

- Ideal for popular sizes of square tubes



Part Number	Dimensions (mm)		Std Pack Qty
	(ins)	(mm)	
199019	5/8	15.8	4000
10225	3/4	19.0	3000
199257	7/8	22.2	2000
199010	1	25.4	1000
199223	2	50.8	250

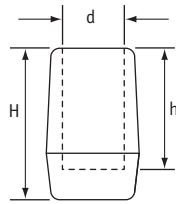
Part Number	Dimensions (mm)			Std Pack Qty
	D	D (ins)	l (mm)	
SQWA-0127-015	12.7	-	15.0	5000
SQWA-0159-015	16.0	5/8	15.0	2500
SQWA-0190-015	19.0	3/4	15.0	2500
SQWA-0200-015	20.0	-	15.0	5000
SQWA-0250-015	25.0	1	15.0	1250
SQWA-0127-025	12.7	-	25.0	4000
SQWA-0159-025	16.0	5/8	25.0	2500
SQWA-0190-025	19.0	-	25.0	2000
SQWA-0200-025	20.0	-	25.0	1250
SQWA-0250-025	25.0	1	25.0	1000
SQWA-0300-025	30.0	-	25.0	1000
SQWA-0400-025	40.0	-	25.0	500
SQWA-0500-025	50.0	-	25.0	400
SQWA-0300-040	30.0	-	40.0	500
SQWA-0400-040	40.0	-	40.0	400
SQWA-0500-040	50.0	2	40.0	200

## FERRULES

### Heavy-Duty Round Ferrules

Preta PVC

- Heavy-duty ferrule with flat thick base
- Ideal for protecting tubular products
- Thick base gives extra protection from rough edges



Part Number	Dimensions (mm)			Std Pack Qty
	d	H	h	
465365	10.0	28.0	22.0	2000
465367	12.0	31.0	24.0	2000
114505061	16.0	36.0	29.0	1000
114509517	18.0	38.0	31.0	1000
114509518	20.0	40.0	33.0	750

### Gloss End Tips

Flexible PVC

- Choice of Preta or Branca
- Durable high-gloss, smooth finish
- Ideal finish for product presentation and protection

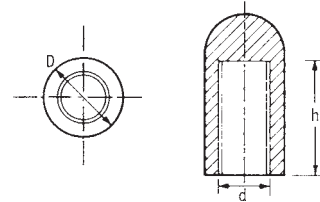


Part Number		Dimensions (mm)		Std Pack Qty
Black	White	Internal Diameter	Internal length	
FCWA-0024-013	FCWB-0024-013	2.4	13.0	5000
FCWA-0032-013	FCWB-0032-013	3.2	13.0	5000
FCWA-0040-013	FCWB-0040-013	4.0	13.0	5000
FCWA-0048-014	FCWB-0048-014	4.8	14.0	5000
FCWA-0060-010	FCWB-0060-010	6.0	10.0	5000
FCWA-0060-013	FCWB-0059-013	6.0	13.0	5000
FCWA-0064-013	FCWB-0064-013	6.4	13.0	5000
FCWA-0079-013	114509519	7.9	13.0	5000
FCWA-0095-013	FCWB-0095-013	9.5	13.0	5000

### End Tips

PVC

- Choice of Preta or Branca
- Add protection or a neat finish to a wide range of applications



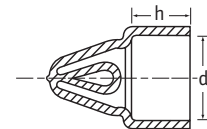
Part Number		Dimensions (mm)			Std Pack Qty
Black	White	d	h	D	
10461	50987	2.4	6.6	5.6	20000
11343	10395	2.7	12.2	6.3	20000
110476	110477	3.0	9.7	5.5	20000
12351	-	3.2	5.1	5.5	20000
11227	10393	3.2	14.2	7.0	20000
11794	61797	3.2	9.7	5.5	20000
12352	50256	4.0	13.3	6.2	20000
110593	114509331	4.0	9.2	5.5	20000
10565	50288	4.8	14.2	7.0	20000
10870	114509583	5.0	20.3	7.9	10000
199462	-	6.0	11.0	8.5	20000
10427	51237	6.3	15.5	8.7	10000
51033*	-	6.4	10.4	7.9	20000
12635*	-	6.4	13.2	9.5	10000
12888	10855	7.0	18.0	9.8	10000
10283	51378	7.6	17.0	11.0	10000
51320*	-	7.9	13.2	9.5	20000
12355	10384	8.0	24.2	10.5	10000
51114*	51297	9.5	13.3	11.1	15000

\* Flat head

### Hanger Caps

Preta Flexible PVC

- Attractive caps with convenient hanger
- Flexible for easy fitting
- Weather resistant



Part Number	Dimensions		h	Std Pack Qty
	d			
	(ins)	(mm)		
HCWA-0222-030	7/8	22.2	30	2000
HCWA-0254-030	1	25.4	30	1500