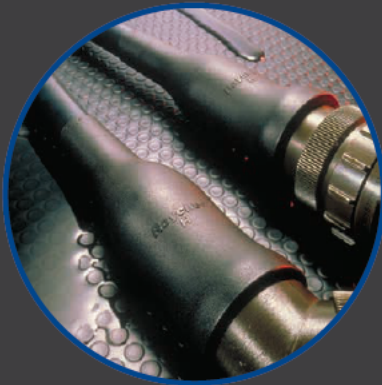


# Micro-Moulded Boots

## Guide



Aerospace | Defence | Energy | Industrial | Medical | Motorsport

[s-motorsport.com](http://s-motorsport.com)

# Heat-shrinkable Micro-Moulded Boots

## Introduction

Connector manufacturers are increasingly offering smaller high performance, rugged, micro circular connectors for use in wiring harnesses in motorsport, defence and civilian markets.

Our range of small heat shrink moulded boots has evolved in order to cater for these requirements for smaller, lighter-weight products that still offer a great balance of protection properties at the connector-wire interface.

Produced in a variety of shapes and materials, they are supplied in an expanded form. On the application of heat, they shrink to a pre-determined size and shape, providing tough, protective covering for the components over which they are installed.

### Features

- Small size
- Supplied in expanded form
- Adhesive lined options
- Strain relief
- Available in a range of different cross-linked polymeric materials



### Benefits

- Weight and space savings
- Environmental sealing against fluid and dirt ingress
- Provides protection against mechanical abuse at the cable-connector interface.
- Suitable for a wide range of applications and environmental requirements for low fire hazard, flame retardance, high temperatures and fluid resistant characteristics. Applications from Aerospace, Defence, Energy, Industrial, Marine and Motorsport.



**203W301 - 25 - G02 / 225 - 0**

### PART NUMBER EXAMPLE

Colour: **0** Black only

Optional Pre-Coat Adhesive: **225** see following page

Modification Number: See following pages

Material Code: **12** or **25**, see following page

Base Part Number: See following pages

## Material and Adhesive Selection

### -25 Fluid Resistant Elastomer

A heat-shrinkable, fluid and temperature resistant, elastomeric moulding compound, designed to offer excellent performance in harsh environments.

- Operating temperatures from -75°C to 150°C
- Chemical and abrasion resistant
- Excellent high temperature fluid resistance
- Flame retardant

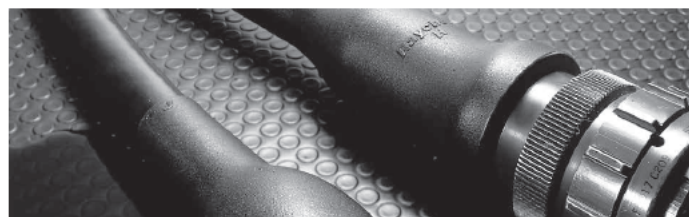
#### Specifications and Approvals

- VG95343 Parts 6, 7, 8 and 9 (Europe)
- Def. Stan. 59-97 Issue 3 Type DE (Europe)
- BS-G-198-5-DE-P
- SAE-AS85049/140, 141, 142

#### Product Characteristics

Description	Part Ref.
Tensile strength	15 MPa (min), ASTM D 412
Heat shock @ 225°C	ASTM D 2671
Flammability	120 s (max), ASTM D 635
Electric strength	8 MV/m (min), ASTM D 149
Fluid resistance	Tensile strength 12 MPa, ASTM D 412

*For additional information please contact us*



### 225 Adhesive Pre-Coating (optional)

A pre-coated latent curing epoxy/polyamide high performance adhesive, developed to match the superior chemical and heat resistance properties of the moulded parts.

- Lap shear 7KN to RK6619 Clause 2.1
- Peel strength 100N to RK6619 Clause 2.2
- DIN VG95343 Part 15

Please contact us for more information

### -12 Modified Fluoro-Elastomer

A high temperature, heat-shrinkable, flexible, flame-retarded, fluoro-elastomeric moulding compound.

- Operating temperature from -55°C to 200°C
- Excellent long term fuel immersion resistance
- Fluid resistant and flexible
- Flame retardant

#### Specifications and Approvals

- Def. Stan. 59-97 Issue 3 Type DD (Europe)
- BS-G-198-5-DD-P
- SAE-AS1765/4
- SAE-AS85049/140, 141, 142

#### Product Characteristics

Description	Part Ref.
Tensile strength	12.4 MPa (min), ISO 37
Heat shock @ 300°C	ASTM D 2671
Flammability	30 s (max), ASTM D 635
Electric strength	8 MV/m (min), IEC 243
Fluid resistance	Tensile strength 11 MPa, ISO 1817

*For additional information please contact us*



### User Applied Adhesives (optional)

A selected range of adhesives and tapes to accommodate a wide variety of applications, materials and environmental conditions.

- S-1255-04** One part epoxy tape adhesive
- S-1017** Hot-melt/polyamide
- S-1048** Hot-melt, high performance
- S-1125** Two part epoxy/polyamide paste

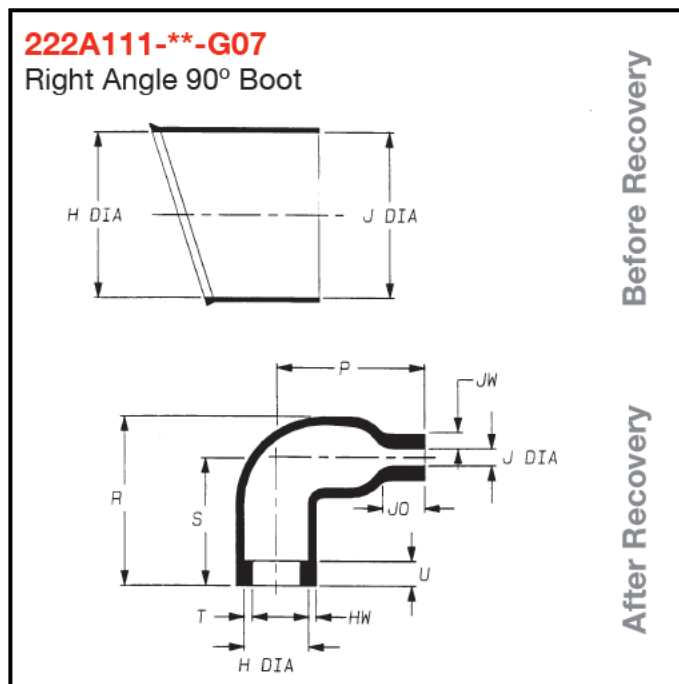
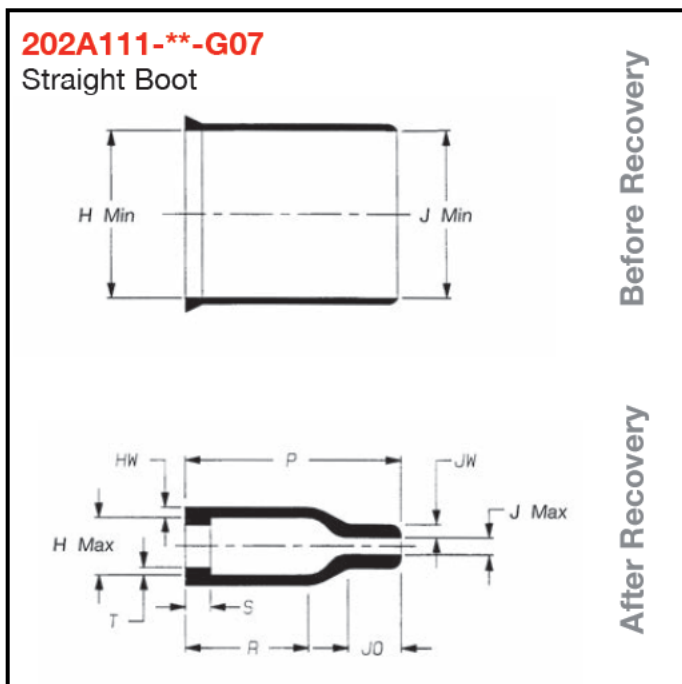
Please contact us for more information

# Heat-shrinkable Micro-Moulded Boots

## 202A111-\*\*-G07 and 222A111-\*\*-G07

### Special Lipped Design

Where H = 17mm to 7.9mm and J = 17mm to 2.2mm



### Product Dimensions Selection Table

Dimensions as Supplied			Dimensions After Recovery								
Dimension	H	J	H	J	P ±10%	R ±10%	S ±10%	T ±20%	JO ±20%	JW ±20%	HW ±20%
Material, XX	25,12*										
Part Number											
202A111-**-G07	17	17	7.9	2.2	25	14	3.0	1.0	6.0	1.7	1.0
222A111-**-G07	18	18	7.9	2.2	17	20	15.5	1.7	5.0	1.7	1.0

\* Note please check dimensions for -12 material as may differ, as supplied dimensions may be slightly reduced due to the nature of the material. After recovery sizes are not effected.  
All dimensions in millimetres unless otherwise stated.

### Ordering Information

- Standard colour Black.
- Size selection, please refer to the table above.
- Specify the product name, material and coating required, as per example.

### Part Number Example

**222A111-25-G07/225-0**

Right angle moulded boot, in fluid resistant elastomer, adhesive coating, colour black

### Materials Available

Material	Material Description
-12	Fluoro-elastomer
-25	Fluid resistant elastomer

### Environmental Adhesives Available

Optional Pre-coat	Optional User Applied
/225	S-1255-04
/225	S-1017 or S-1048 or S-1125

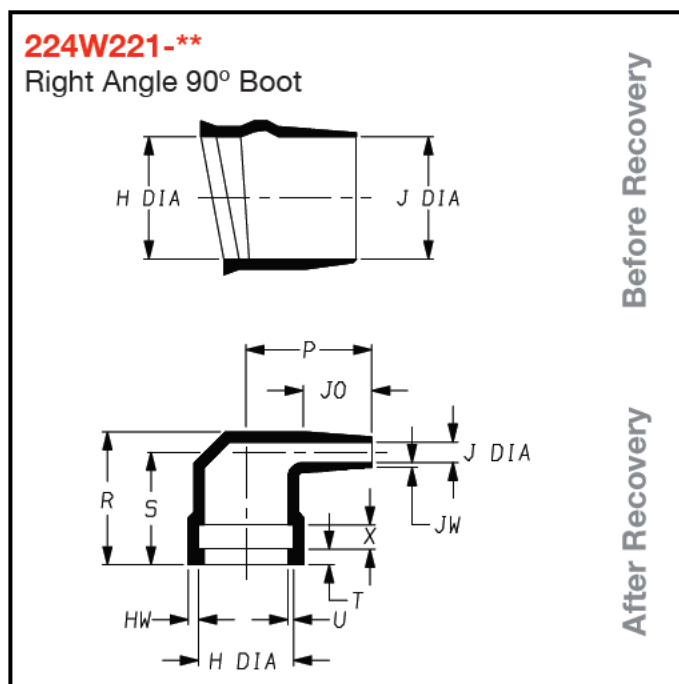
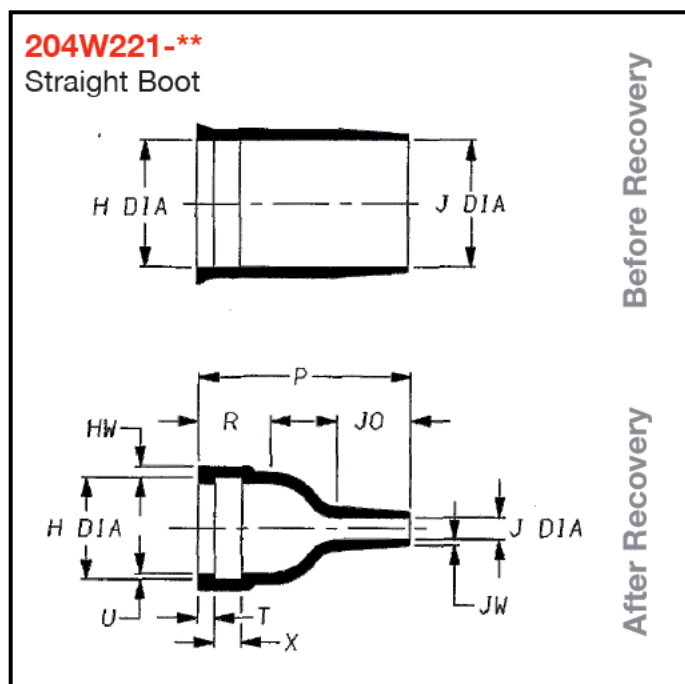
For more information on materials and adhesives please see earlier in this guide, or please contact us

# Heat-shrinkable Micro-Moulded Boots

**204W221-\*\* and 224W221-\*\***

**Special Lipped Design**

Where H = 11mm to 9.3mm and J = 11mm to 2.1mm



## Product Dimensions Selection Table

Dimensions as Supplied			Dimensions After Recovery										
Dimension	H	J	H	J	P ±10%	R ±10%	S ±10%	T ±10%	U ±10%	X ±10%	JO ±10%	HW ±20%	JW ±20%
Material, XX	25,12*												
Part Number													
204W221-**	11	11	9.3	2.1	19	6.5	-	1.5	0.55	2.4	6.6	1.0	0.5
224W221-**	11	11	9.3	2.1	12.3	13	11	1.5	0.55	2.	6.6	1.0	0.5

\* Note please check dimensions for -12 material as may differ, as supplied dimensions may be slightly reduced due to the nature of the material. After recovery sizes are not effected. All dimensions in millimetres unless otherwise stated.

## Ordering Information

- Standard colour Black.
- Size selection, please refer to the table above.
- Specify the product name, material and coating required, as per example.

## Part Number Example

**224W221-12-0**

Right angle moulded boot, in fluoro elastomer, colour black

## Materials Available

Material	Material Description
-12	Fluoro-elastomer
-25	Fluid resistant elastomer

## Environmental Adhesives Available

Optional Pre-coat	Optional User Applied
/225	S-1255-04
/225	S-1017 or S-1048 or S-1125

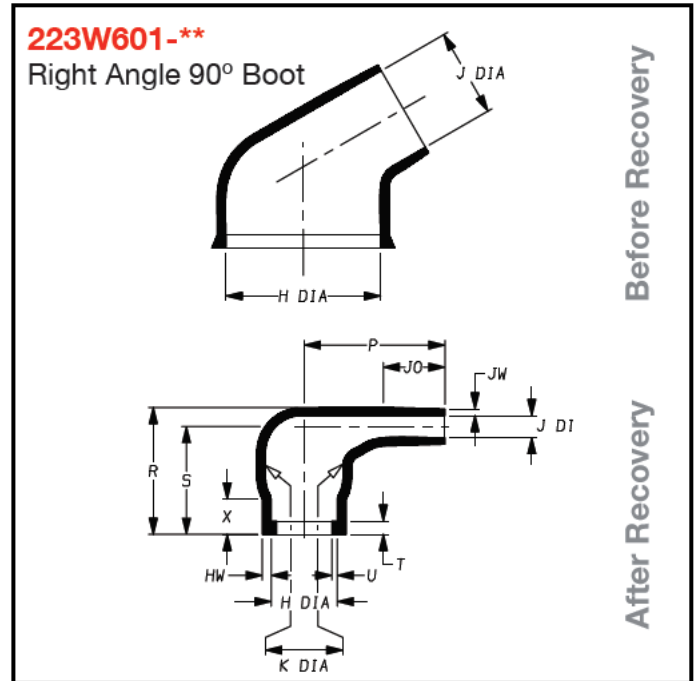
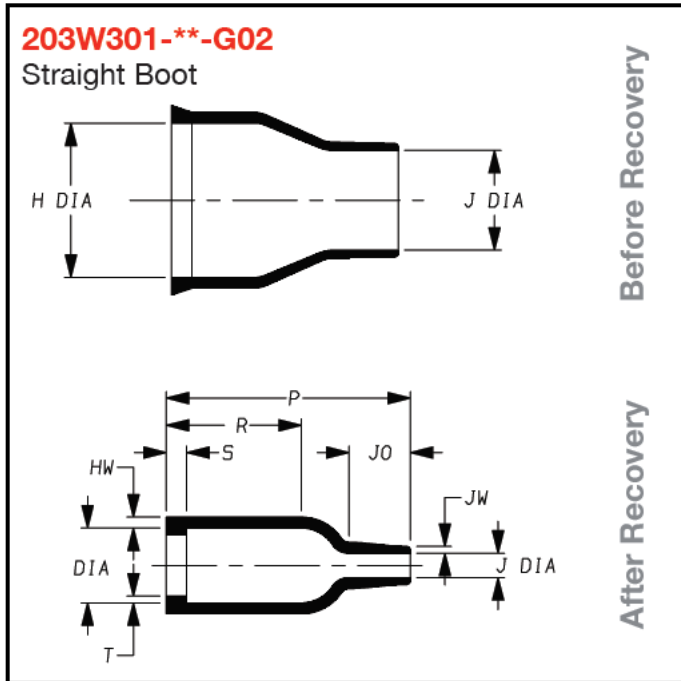
For more information on materials and adhesives please see earlier in this guide, or please contact us

# Heat-shrinkable Micro-Moulded Boots

## 203W301-\*\*-G02 and 223W601-\*\*-\*\*

### Special Lipped Design

Where H = 10mm to 5.8mm and J = 6mm to 2.2mm



### Product Dimensions Selection Table

Dimensions as Supplied			Dimensions After Recovery												
Dimension	H	J	H	J	K	P ±10%	R ±10%	S ±10%	T ±10%	U ±10%	JO ±10%	HW ±20%	JW ±20%	X ±20%	
Material, XX	25,12*														
Part Number															
203W301-**-G02	10	6.0	5.8	2.2	-	19	11	1.5	0.5	-	4.5	0.8	0.5	-	
223W601-**-**	10	6.0	6.3	2.0	7.4	12.5	11.5	9.8	1.2	0.5	6.0	1.0	0.6	3.2	

\* Note please check dimensions for -12 material as may differ, as supplied dimensions may be slightly reduced due to the nature of the material. After recovery sizes are not effected. All dimensions in millimetres unless otherwise stated.

### Ordering Information

- Standard colour Black.
- Size selection, please refer to the table above.
- Specify the product name, material and coating required, as per example.

### Part Number Example

223W601-25-0

Right angle moulded boot, in fluid resistant elastomer, colour black

### Materials Available

Material	Material Description
-12	Fluro-elastomer
-25	Fluid resistant elastomer

### Environmental Adhesives Available

Optional Pre-coat	Optional User Applied
/225	S-1255-04
/225	S-1017 or S-1048 or S-1125

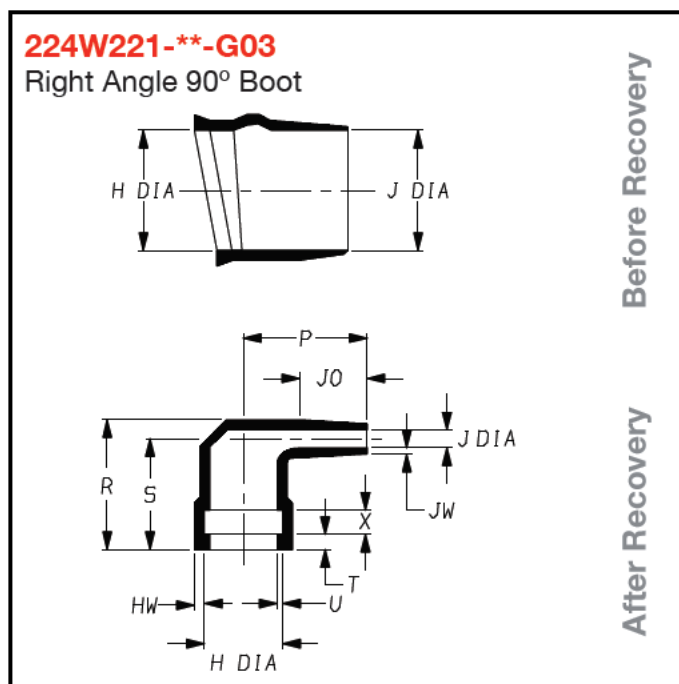
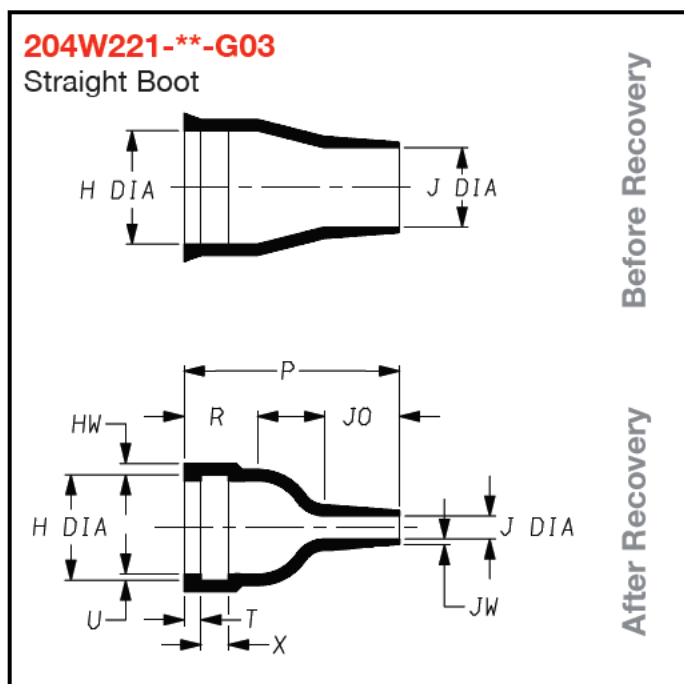
For more information on materials and adhesives please see earlier in this guide, or please contact us

# Heat-shrinkable Micro-Moulded Boots

## 204W221-\*\*-G03 and 224W221-\*\*-G03

### High Recovery Ratio, Lipped Design

Where H = 11mm to 7.8mm and J = 11mm to 1.9mm



### Product Dimensions Selection Table

Dimensions as Supplied			Dimensions After Recovery										
Dimension	H	J	H	J	P ±10%	R ±10%	S ±10%	T ±10%	U ±10%	X ±10%	JO ±10%	HW ±20%	JW ±20%
Material, XX	25,12*												
Part Number													
204W221-**-G03	11	11	7.8	1.9	19	6.5	-	1.5	0.55	2.4	6.6	1.0	0.5
224W221-**-G03	11	11	7.8	1.9	12.3	13	11	1.5	0.55	2.	6.6	1.0	0.6

\* Note please check dimensions for -12 material as may differ, as supplied dimensions may be slightly reduced due to the nature of the material. After recovery sizes are not effected. All dimensions in millimetres unless otherwise stated.

### Ordering Information

- Standard colour Black.
- Size selection, please refer to the table above.
- Specify the product name, material and coating required, as per example.

### Part Number Example

**224W221-25-G03/225-0**

Right angle moulded boot, in fluid resistant elastomer, with adhesive coating, colour black

### Materials Available

Material	Material Description
-12	Fluro-elastomer
-25	Fluid resistant elastomer

### Environmental Adhesives Available

Optional Pre-coat	Optional User Applied
/225	S-1255-04
/225	S-1017 or S-1048 or S-1125

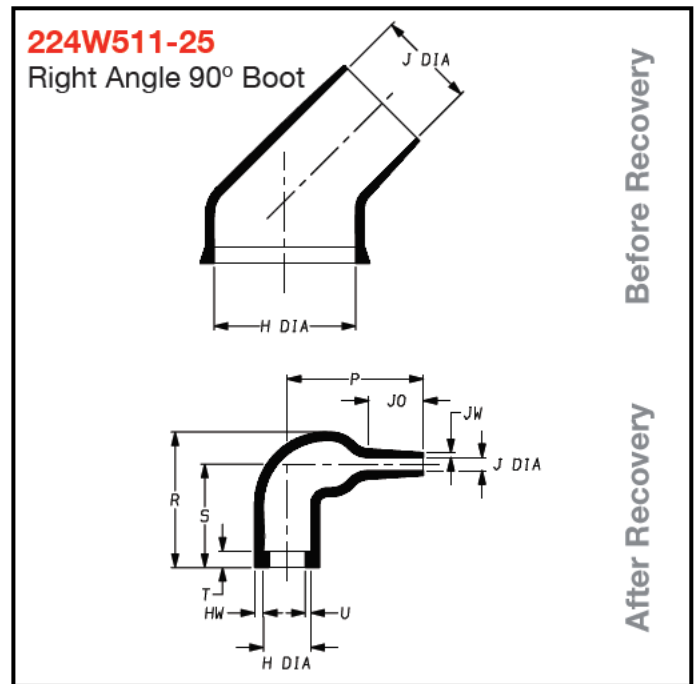
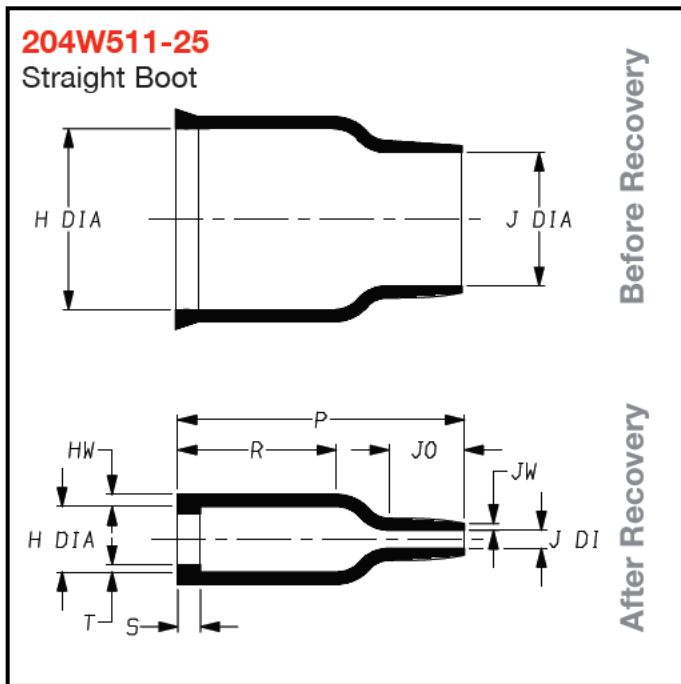
For more information on materials and adhesives please see earlier in this guide, or please contact us

# Heat-shrinkable Micro-Moulded Boots

## 204W511-25 and 224W511-25

### Special Lipped Design

Where H = 24mm to 9.2mm and J = 16mm to 2.8mm



### Product Dimensions Selection Table

Dimensions as Supplied			Dimensions After Recovery									
Dimension	H	J	H	J	P ±10%	R ±10%	S ±10%	T ±10%	U ±10%	JO ±10%	HW ±20%	JW ±20%
Material	25											
Part Number												
204W511-25	24	16	9.2	2.8	38	21	3.0	1.0	-	10	1.6	0.9
224W511-25	24	16	9.2	2.8	25	25	19	3.0	1.0	10	1.6	0.9

All dimensions in millimetres unless otherwise stated.

### Ordering Information

- Standard colour Black.
- Size selection, please refer to the table above.
- Specify the product name, material and coating required, as per example.

### Part Number Example

**204W511-25**

Straight moulded boot, in fluid resistant elastomer, colour black

### Materials Available

Material	Material Description
-25	Fluid resistant elastomer

### Environmental Adhesives Available

Optional Pre-coat	Optional User Applied
/225	S-1017 or S-1048 or S-1125

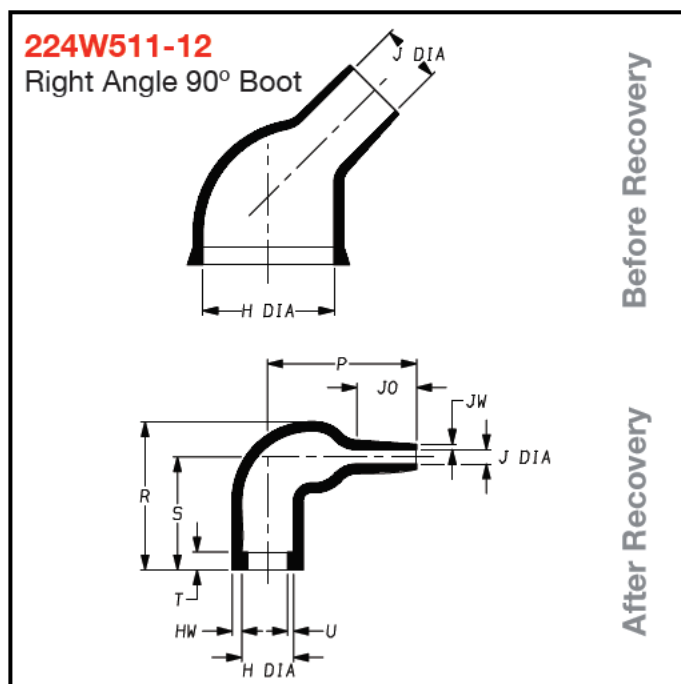
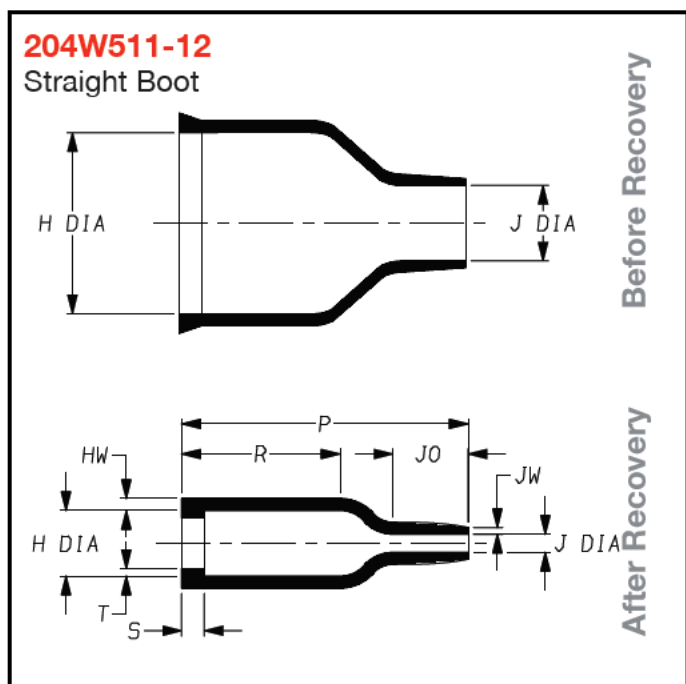
For more information on materials and adhesives please see earlier in this guide, or please contact us



# Heat-shrinkable Micro-Moulded Boots

## 204W511-12 and 224W511-12 High Recovery Ratio, Lipped Design

Where H = 22mm to 9.3mm and J = 8mm to 2.8mm



### Product Dimensions Selection Table

Dimensions as Supplied			Dimensions After Recovery									
Dimension	H	J	H	J	P ±10%	R ±10%	S ±10%	T ±10%	U ±10%	JO ±10%	HW ±20%	JW ±20%
Material	12											
Part Number												
204W511-12	22	8.0	9.3	2.8	38	21	3.0	1.0	-	10	1.6	0.9
224W511-12	19	8.0	9.3	2.8	25	25	19	3.0	1.0	10	1.6	0.9

All dimensions in millimetres unless otherwise stated.

### Ordering Information

- Standard colour Black.
- Size selection, please refer to the table above.
- Specify the product name, material and coating required, as per example.

### Part Number Example

224W511-12/225-0

Right angle moulded boot, in fluoro elastomer, with adhesive coating, colour black.

### Materials Available

Material	Material Description
-12	Fluoro-elastomer

### Environmental Adhesives Available

Optional Pre-coat	Optional User Applied
/225	S-1255-04

For more information on materials and adhesives please see earlier in this guide, or please contact us

# Heat-shrinkable Moulded Boots

## Extensive Range Moulded Parts and Shapes High Performance Applications

Based on heatshrink technology, moulded parts and shapes are available in a vast range of configurations, sizes and materials, from miniature lightweight and space saving straight boots through to large multi-way harness transitions.

Moulded parts can be used to seal and protect harnessing breakouts and terminations from environmental hazards, as well as providing strain relief. Material selection enables full integration and compatibility with other harness components, producing electrical systems that can be used under the most extreme environmental conditions.

### Boots

Ideal for providing a high performance environmental seal and mechanical protection between the cable or wire and the connector or connector adaptor.

### Transitions

Ideal replacement for tapes, mould-in-place epoxies and grease. These moulded parts can be used for cable breakouts, transitions and terminations.

### Other

Cable entry seals and end caps provide optimum waterproofing and environmental protection for underwater, underground, or outdoor applications.

### Features & Benefits

- Mechanical protection
- Chemical resistance
- Electrical insulation
- Electrical screening
- Fluid and solvent resistance
- Moisture protection
- Strain relief
- Flame-retardant, low smoke
- Extreme temperature performance
- Aesthetic enhancement
- Fast & efficient installation
- Wide range of materials
- Pre-installed adhesives
- Modification options

