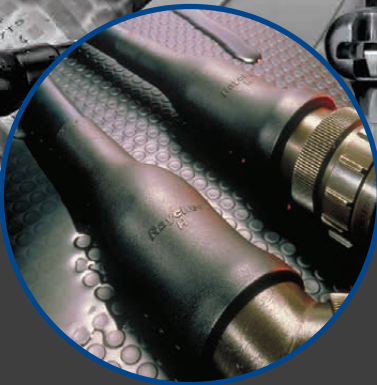


Micro-Moulded Boots

Guide & Stock Profile



Aerospace | Defence | Energy | Industrial | Medical | Motorsport

Heat-shrinkable Micro-Moulded Boots

Introduction

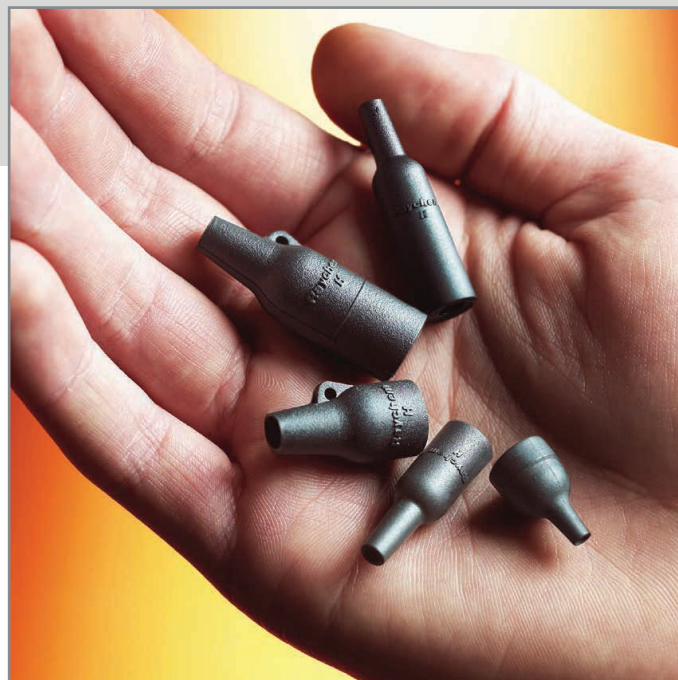
Connector manufacturers are increasingly offering smaller high performance, rugged, micro circular connectors for use in wiring harnesses in motorsport, defence and civilian markets.

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.

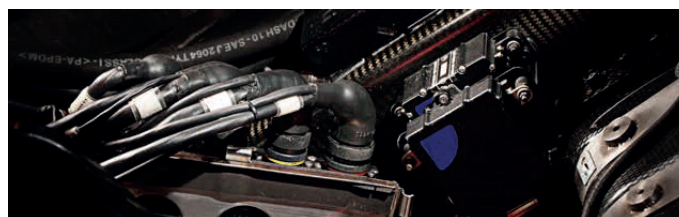
Features

- 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

Heat-shrinkable Micro-Moulded Boots

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

-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

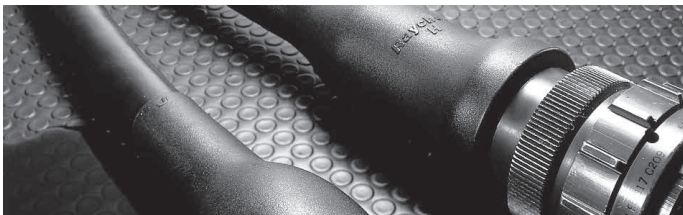
Description	Part Ref.
Tensile strength	15 MPa (min), ASTM D 412
Heat shock @ 225°C	ASTM D 2671
Flammability	120 s (max), ASTM D 635
Electric strength	8 MV/m (min), ASTM D 149
Fluid resistance	Tensile strength 12 MPa, ASTM D 412

For additional information please contact us

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



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

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

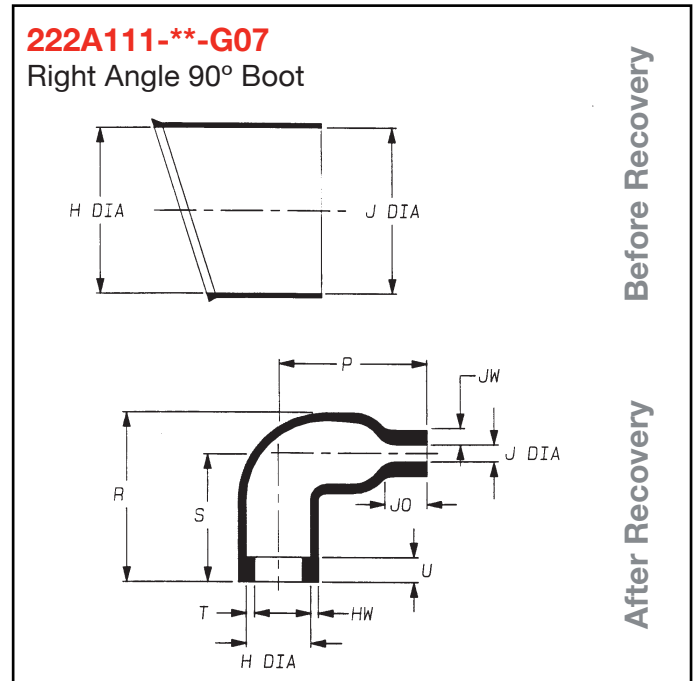
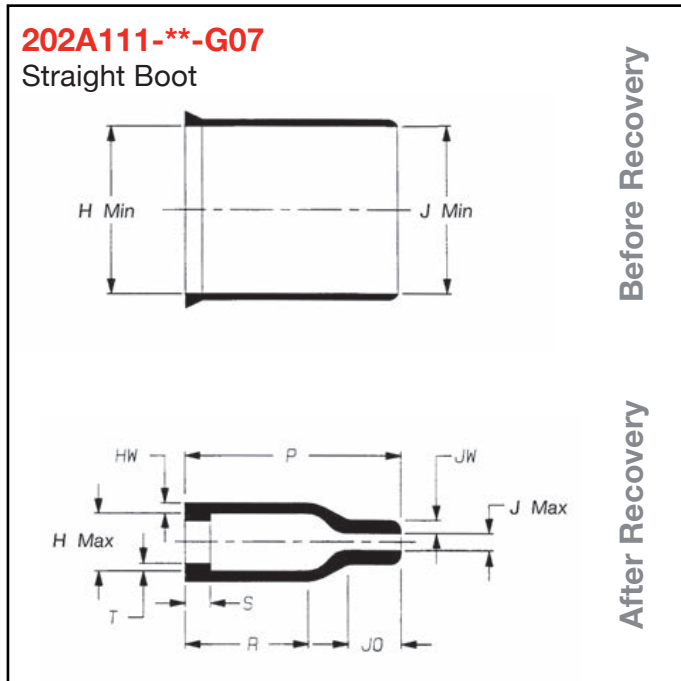
Please contact us for more information

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

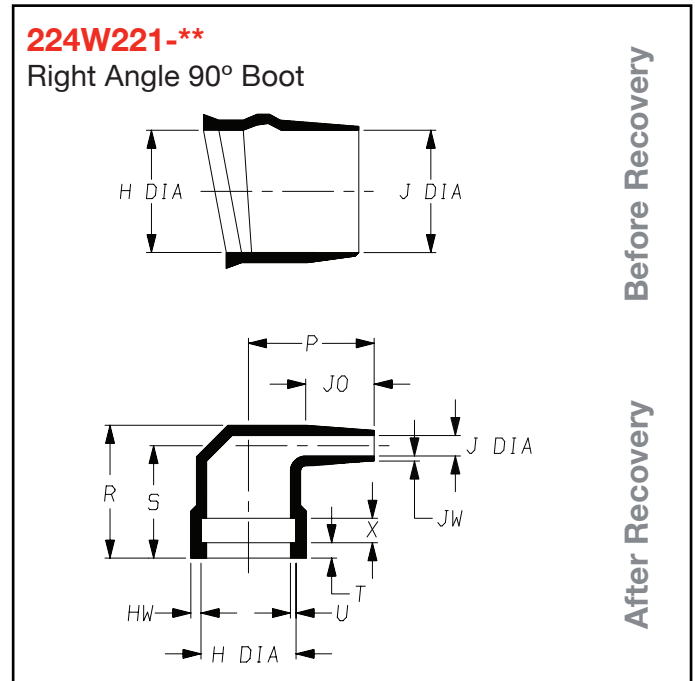
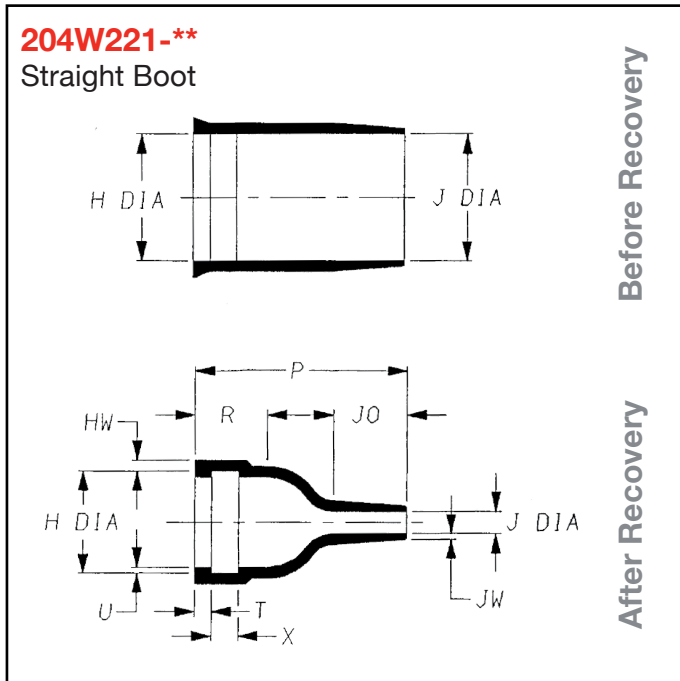
Optional Pre-coat	Optional User Applied
/225	S-1255-04
/225	S-1017 or S-1048 or S-1125

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

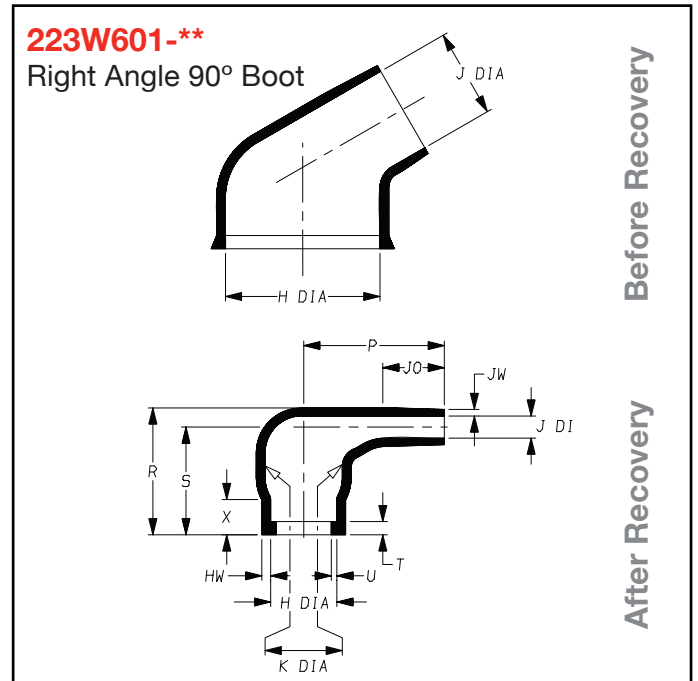
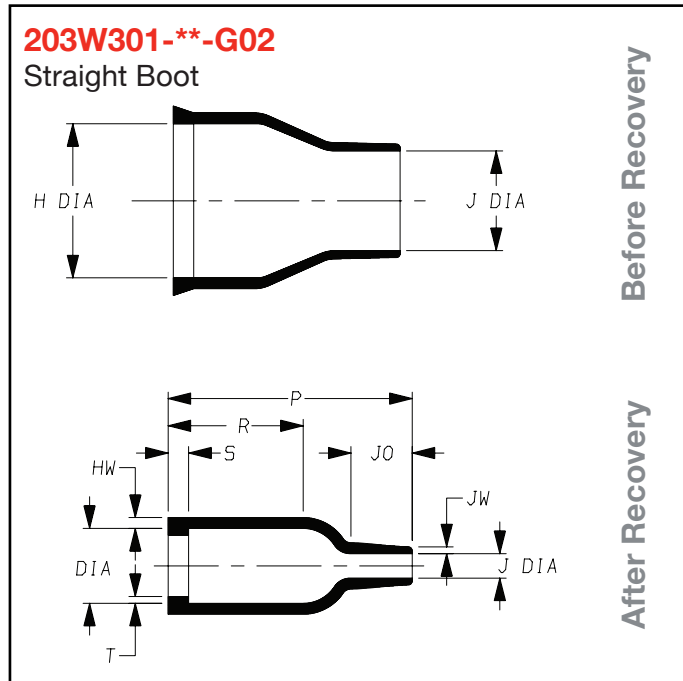
For more information on materials and adhesives please see earlier in this guide, or please contact us

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	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

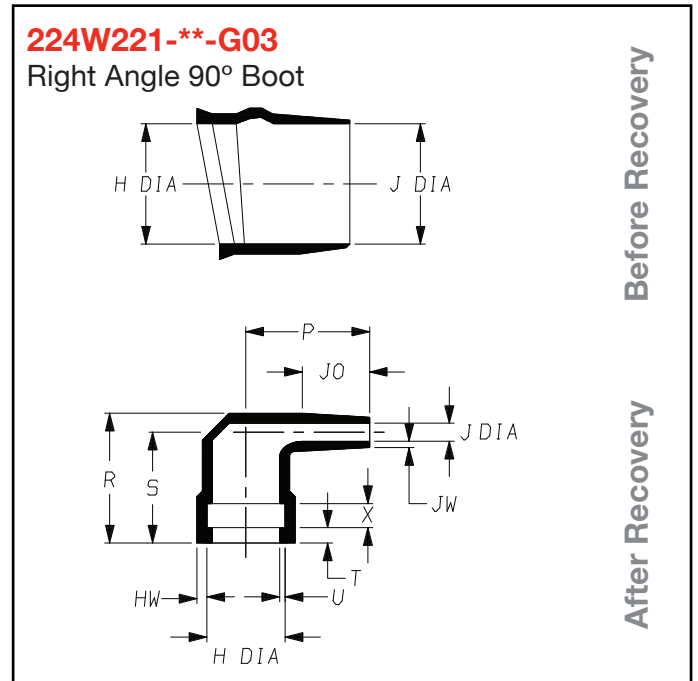
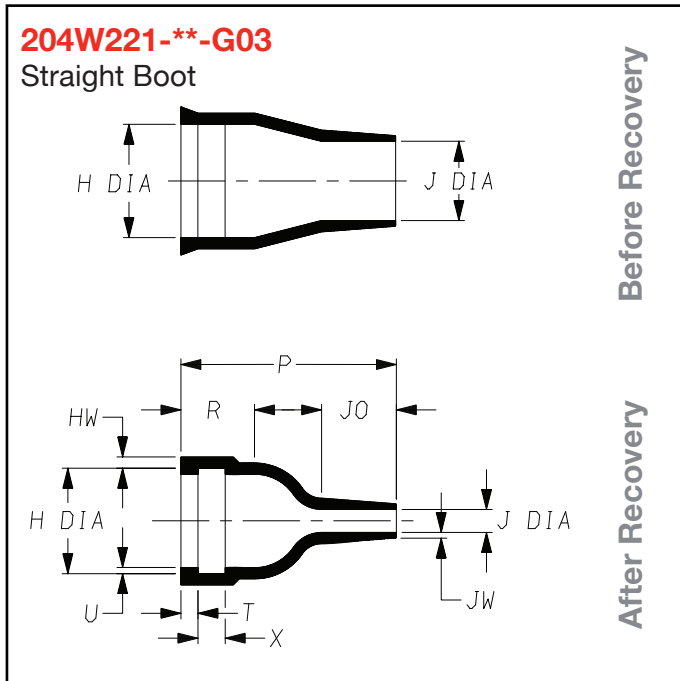
For more information on materials and adhesives please see earlier in this guide, or please contact us

Heat-shrinkable Micro-Moulded Boots

204W221-**-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	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

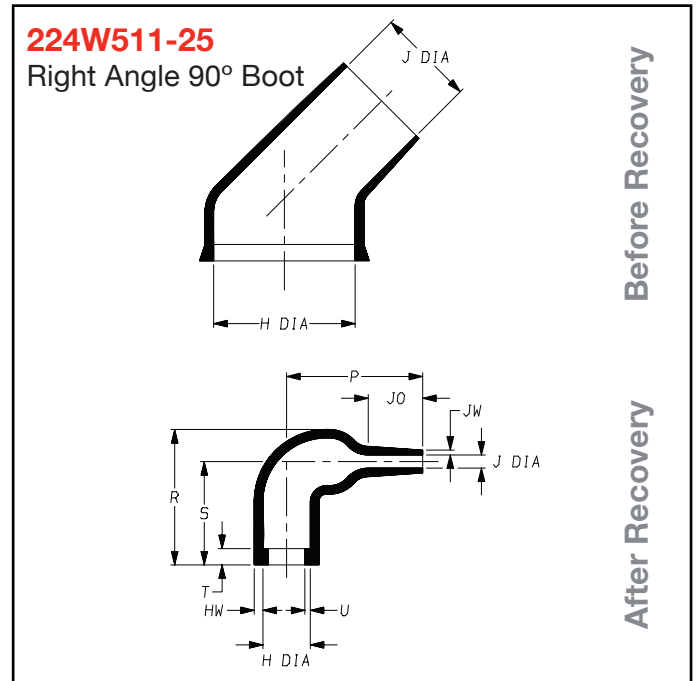
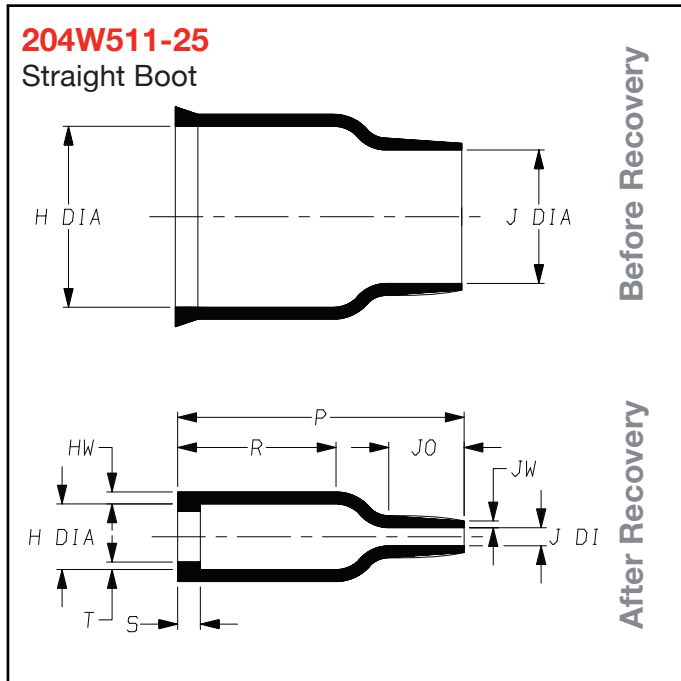
For more information on materials and adhesives please see earlier in this guide, or please contact us

Heat-shrinkable Micro-Moulded Boots

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

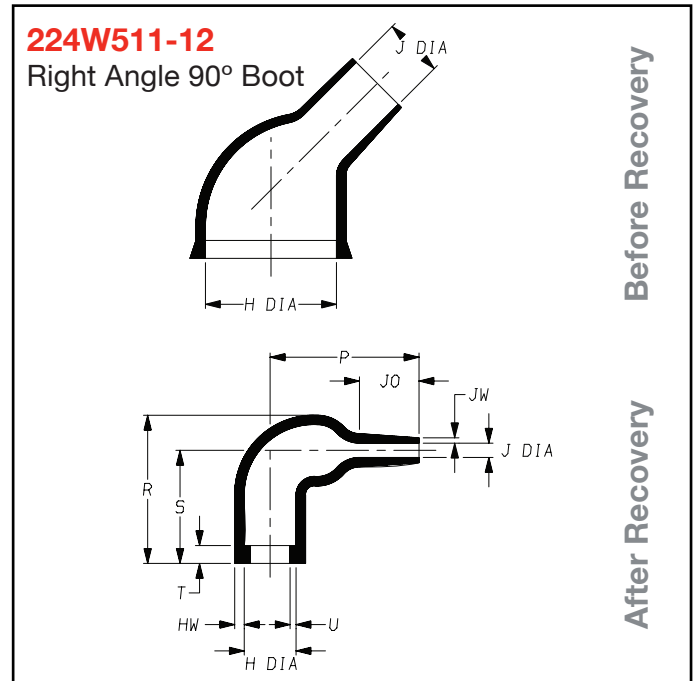
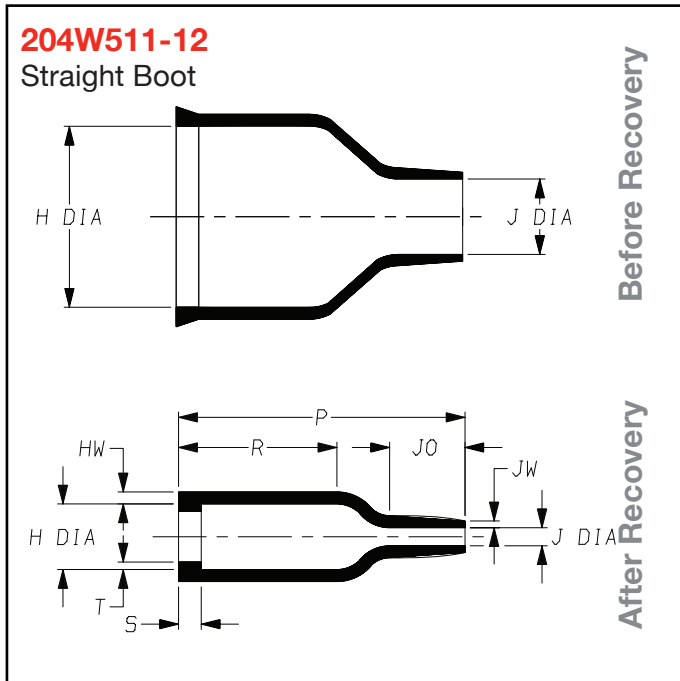
Optional Pre-coat	Optional User Applied
/225	S-1017 or S-1048 or S-1125

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.

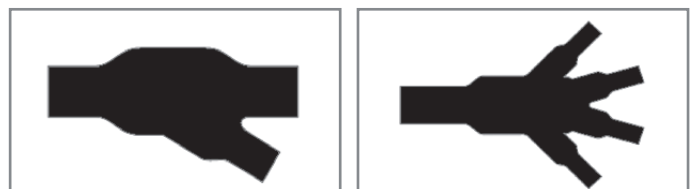
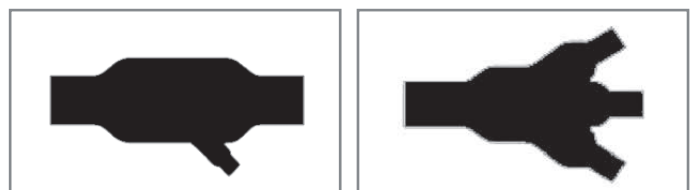
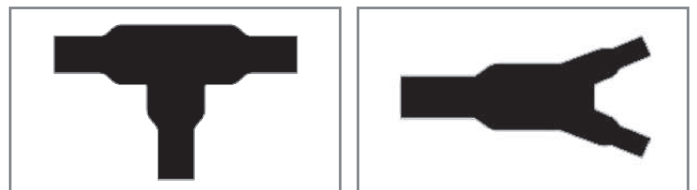
Other

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

Please call us for additional information and product range details.



Product Portfolio Overview

FRANCHISED DISTRIBUTORS for

Brand Rex

Wire and Cable: PTFE, ASNE, ACT150, ACT260, KP260.

Breyden / Gudebrod

Lacing tapes and cords: Polyamide, Polyester, Tetra-fluorocarbon, Glass & Polyamide.

Cotronics

High Temp adhesives, fillers, coatings, tapes & cloths. Plus encapsulants, metallic/ quartz adhesives & putties and machinable ceramics.

Device Technologies Inc

Protective Edging, EMI/RFI Shielding products including gaskets and Thermal Interface material.

Federal-Mogul SPG

Protective Sleeving: Silicon coated fibreglass, Nomex, modified polyester and woven fibreglass based materials.

Lapp Muller

Specialist Wire & Cable: Flame retardant, Robotic, Drag chain, Reeling and Radiation resistant cables

OTTO

Switches: Pushbutton, Toggle, Vandal Resistant, Foot Pedals, Grips, Sealed Limit Switches, Custom Pendants and Rotary.

Panduit

Cable Management Accessories: Cable Ties and Fasteners, Ducting, Grommet Edging, Tooling.

PIC Wire & Cable

High Performance and Lightweight: RF & VIDEO Coaxial/Triaxial cables, High speed DATA cables and MICRO X and Ku Band cable and wire.

TE Connectivity

Wire & Cable, Heat-shrinkable Tubing, Moulded Parts & Shapes, Interconnection & Termination Devices, Marker & Identification Systems, Adaptors & Adhesives, Relays and Contactors, plus Application Equipment.

Stocking distributor of High Performance Electrical Interconnect & Electro Mechanical Products, with specialist knowledge in the Aerospace, Defence, Energy, Industrial, Medical and Motorsport sectors.

The broad range of products and services that we supply includes the following;

- Wire and Cable
- Tubing
- Protective Sleeving
- Moulded Parts and Shapes
- Tapes and Adhesives
- Termination Devices
- Connectors, Adaptors and Assemblies
- Relays and Contactors
- Switches
- Identification Solutions
- Cable Management
- Bonding Leads
- Application Equipment.

The current product portfolio has been carefully selected to meet the wide diversity of customer requirements, as well as meeting international standards and specifications. Product solutions cover individual components through to complete integrated solutions for the most demanding applications.

In addition to the standard stock profile, IS-Rayfast also provides bespoke stocking packages tailored to meet specific market and individual customer requirements.

If the product you require is not included here, please contact us as we may be able to help you either with a suitable alternative or obtain the part in the volumes required.



IS-Group Overview

The IS-Group comprises distribution specialists offering technical support, extensive stock and added value services to customers within the Aerospace, Defence, Energy, Industrial, Medical and Marine markets, together with solutions for a range of demanding niche applications.

Customer Services

Our customer services are focussed on meeting customer requirements through the provision of field sales engineering support, market specific Business Managers and Co-ordinators along with specialised technical support. Immediate access to in excess of 5,000 product lines from an extensive "off the shelf" stock profile for next day delivery as standard, along with flexible MOQ's and pack sizes.

We are fully committed to complying with the latest quality approvals for the customers and markets we serve, including ISO9001:2008 and AS9120:2005.

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