



RSR SERIES ALUMINUM CORD GRIPS



RSR Series 45° Aluminum Cord Grips

Tuff Seal™ 45° RSR Cord Grips are UL Listed and CSA Certified for use in both indoor and outdoor applications to prevent

cable pullout, control arc of bend, and to provide a tight seal against environmental elements such as dirt, moisture and coolants.

These cord grips with external threads offer the same features as the straight RSR grips described on page 10. Made from machined aluminum, these grips can be ordered with or without wire mesh attachments and accommodate conduit sizes from 1/2" to 1 1/2".

For applications known for their severe conditions – such as oil and gas, marine, food & chemical processing – RSR 45° Cord Grips are also available in nickel-plated aluminum. Providing exceptional corrosion resistance and high wear resistance, nickel-plated connectors also feature an attractive finish similar to that of polished stainless steel.

These Tuff Seal grips protect cable from damage and pull-out and are used in conduit hubs or knock-outs at the point where the electrical cable is to be terminated.

NOTES

Cord Grip Accessories

Locknuts: add "-L" to any part number

O-Rings: add "-R" to any part number

Special Configurations

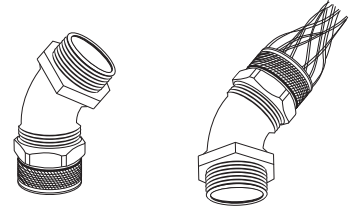
Special configurations and materials are available.

Consult factory.

All wire mesh is stainless steel.

Dimension & certification information on pages 50 & 53 in Tuff-Seal Technical Reference.

COMPLETE ASSEMBLY PART NUMBERS



Conduit Size (NPT)	Cable Range	Cord Grip	Cord Grip With Mesh
1/2"			
	.125 – .188	RSR-45103	—
	.188 – .250	RSR-45104	RSR-45104-E
	.250 – .312	RSR-45105	RSR-45105-E
	.312 – .375	RSR-45106	RSR-45106-E
	.375 – .438	RSR-45107	RSR-45107-E
	.438 – .500	RSR-45108	RSR-45108-E
	.500 – .562	RSR-45109	RSR-45109-E
	.562 – .625	RSR-45110	RSR-45110-E
3/4"			
	.438 – .500	RSR-45208	RSR-45208-E
	.500 – .562	RSR-45209	RSR-45209-E
	.500 – .625	RSR-45210	RSR-45210-E
	.562 – .688	RSR-45211	RSR-45211-E
	.625 – .750	RSR-45212	RSR-45212-E
	.688 – .812	RSR-45213	RSR-45213-E
1"			
	.500 – .562	RSR-45309	RSR-45309-E
	.500 – .625	RSR-45310	RSR-45310-E
	.562 – .688	RSR-45311	RSR-45311-E
	.625 – .750	RSR-45312	RSR-45312-E
	.688 – .812	RSR-45313	RSR-45313-E
	.750 – .875	RSR-45314	RSR-45314-E
	.812 – .938	RSR-45315	RSR-45315-E
	.875 – 1.000	RSR-45316	RSR-45316-E
1 1/4"			
	.562 – .688	RSR-45411	—
	.688 – .812	RSR-45413	—
	.750 – .875	RSR-45414	—
	.875 – 1.000	RSR-45416	RSR-45416-E
	1.000 – 1.125	RSR-45418	RSR-45418-E
	1.125 – 1.250	RSR-45420	RSR-45420-E
	1.250 – 1.375	RSR-45422	RSR-45422-E
1 1/2"			
	.562 – .688	RSR-45511	—
	.688 – .812	RSR-45513	—
	.750 – .875	RSR-45514	—
	.875 – 1.000	RSR-45516	RSR-45516-E
	1.000 – 1.125	RSR-45518	RSR-45518-E
	1.125 – 1.250	RSR-45520	RSR-45520-E
	1.250 – 1.375	RSR-45522	RSR-45522-E

*Cable may have to be stripped to pass through the bore of the body



Nickel-plated aluminum:
Cord grips available in nickel-plated aluminum. Add "N" to end of prefix.
(ex: RSR-45103 becomes RSRN-45103)



TUFF-SEAL TECHNICAL REFERENCE SECTION

RoHS STATEMENT

Remke Industries supports the European Union's efforts to remove harmful chemicals from electrical products. In compliance with Directive 2002/95/EC of the European Parliament and the Council of the European Union regarding the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS), Remke Industries certifies either:

1. The maximum concentration values of weight in homogenous materials for the substances referred to in Article 4(1) of directive 2002/95/EC that are contained in the products do not exceed the maximum concentration values of 0.1% in respect of lead, mercury, hexavalent chromium, polybrominated biphenyls, polybrominated diphenyl ethers, and 0.01% in respect of cadmium. OR
2. The product supplied is exempt from this directive.

Remke Industries certifies that all products of our manufacture are fully compliant to the current RoHS Directive.



REMKE INDUSTRIES
REGISTERED TO ISO 9001:2000
FILE NUMBER A9208

ISO CERTIFICATION

On July 1st, 2003 Remke Industries received ISO 9001 : 2000 certification which certifies that Remke is compliant with current ISO standards.

OPERATING TEMPERATURES

Material	Temperature range
Aluminum	-40°F to +300°F (-40°C to +149°C)
Buna-N	-40°F to +250°F (-40°C to +121°C)
Nylon	-40°F to +225°F (-40°C to +107°C)
Steel	-60°F to +1000°F (-51°C to +537°C)
Stainless Steel	-60°F to +1000°F (-51°C to +537°C)
Neoprene (bushings)	-40°F to +250°F (-40°C to +121°C)
Silicone (bushings)	-150°F to +390°F (-65°C to +232°C)
Valox	-40°F to +250°F (-40°C to +121°C)
Dome-Cap Connectors:	
Non-Metallic	-22°F to +176°F (-30°C to +80°C)
Metallic	-40°F to +212°F (-40°C to +100°C)

FLAMMABILITY

Component	Rating
Mesh Grip	UL 94HB
Fitting	UL 94V-2
Note: Non-metallic cord connectors will not support combustion.	

APPROVALS, CERTIFICATION & COMPLIANCES

Agency	File Number	Product or Component
Underwriters Laboratories Inc. (UL)	E53599	RSR Series (Straight, 90°, 45°)
		RSP Series (Straight, 90°)
		RSM Cord Grips
		RSRS Cord Grips
		RSRF Series
	E52002	Liqua-Seal Connectors
	E52002(N)	WH Series Watertight Conduit Hubs
	E157356(N)	WH Series Watertight Conduit Hubs
Canadian Standards Association (CSA)	28985	RSR Series (Straight, 90°, 45°)
		RSP Series (Straight, 90°)
		RSRS Cord Grips
		RSRF Series
		RSSS Series
		RSPV Series
		MC Cable Connectors
		Watertight Conduit Hubs
		RSR Series (Straight, 90°, 45°)
		RSP Series (Straight, 90°)
National Electrical Code (NEC)	Articles 400-10	RSR Series (Straight, 90°, 45°)
	Articles 400-14	RSP Series (Straight, 90°)
		RSM Cord Grips
		RSRS Cord Grips
		RSRF Series
	Articles 501-4(B)	WH Series Watertight Conduit Hubs
	Articles 502-4(A)	WH Series Watertight Conduit Hubs
	Articles 503-3(A)	WH Series Watertight Conduit Hubs
ROHS & WEE	All Tuff-Seal and Tuff-Link Products are Compliant	

HAZARDOUS LOCATIONS

Definition	Remke Products
The Remke products listed are suitable for use in hazardous locations per Class I, Div. 2, Class II, Div 1 & 2, and Class III, Div. 1 & 2	RSR Series (Straight, 90°, 45°)
	WH Series Watertight Conduit Hubs
	RSP Series (Straight, 90°)
	RSM Cord Grips, RSRS Cord Grips
	RSRF Series

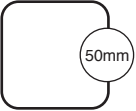
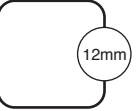
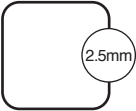
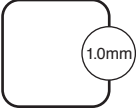
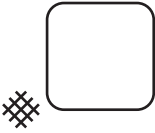
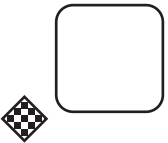
KNOCKOUT DIMENSIONS

N.P.T. Hub Size	Knockout Hole Recommended (Min to Max /Inches)
1/4"	.540 to .570
3/8"	.671 to .701
1/2"	.859 to .906
3/4"	1.094 to 1.141
1"	1.359 to 1.406
1 1/4"	1.719 to 1.766
1 1/2"	1.969 to 2.016
2"	2.453 to 2.500
2 1/2"	2.953 to 3.000
3"	3.578 to 3.625

RATINGS/MATERIAL OF CONSTRUCTION



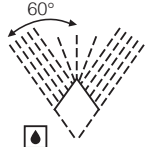

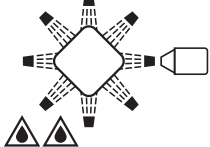
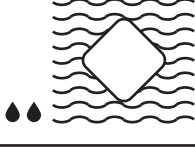
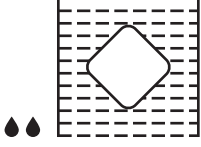
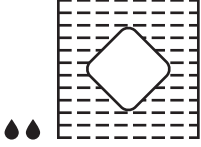
Material	IP 54 and NEMA 3	IP 54 and NEMA 3R	IP 65 and NEMA 4	IP 56 and NEMA 4X	IP 67 and NEMA 6	IP 52 and NEMA 12
Aluminum	X	X	X	—	X	X
Nickel-Plated Aluminum	X	X	X	X	X	X
Steel	X	X	X	—	X	X
Stainless Steel	X	X	X	X	X	X
Nylon	X	X	X	—	X	X
Valox	X	X	X	X	X	X

IP RATINGS DEFINITION

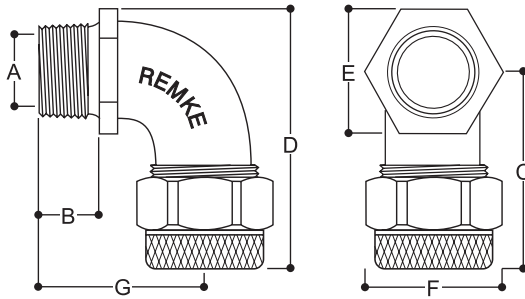
First Digit		Protection From Solid Objects
0		Non-Protected
1		Protected against solid objects over 50mm e.g. hands, large tools
2		Protected against solid objects over 12mm e.g. hands, large tools
3		Protection from entry by solid objects over 2.5mm e.g. wire or small tools
4		Protection from entry by solid objects over 1.0mm e.g. wires or tools
5		Protection against deposits of dust e.g. against equipment damage due to deposits
6		Total protection against dust ingress e.g. Dust-Tight

IP CODE EXAMPLE

IP54 = IP (IP LETTER CODE), 5 (1st Digit), 4 (2nd Digit)

Second Digit		Protection From Moisture
0		Non-Protected
1		Protection against vertically falling drops of water
2		Protection against direct sprays of water up to a 15° angle
3		Protection against direct sprays of water up to a 60° angle
4		Protection against water sprayed from any direction. Limited ingress permitted.
5		Protection against low pressure water jets from any direction. Limited ingress permitted
6		Protection against high pressure water jets from any direction. Limited ingress permitted.
7		Protection against immersion between 15cm and 1M
8		Protection against complete and continuous immersion in water under pressure e.g. Water-Tight

RSR SERIES 90° CORD GRIP DIMENSIONS



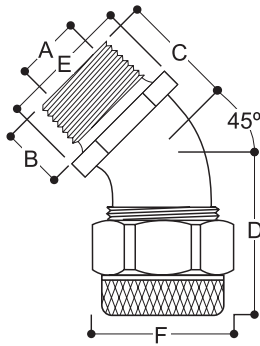
Note: Dimension "E" is across flats

ALUMINUM AND NICKEL-PLATED ALUMINUM

Conduit Size	A Body Bore	B	C	D	E Body Hex	F Nut Dia.	G
3/8"	0.45	0.44	1.51	2.00	0.98	0.96	1.31
1/2"	0.58	0.56	1.88	2.39	1.03	1.26	1.50
3/4"	0.76	0.63	2.25	2.88	1.25	1.55	1.99
1"	0.99	0.63	2.41	3.13	1.44	1.74	2.00
1 1/4"	1.28	0.69	3.19	4.41	2.13	2.47	2.69
1 1/2"	1.40	0.69	3.19	4.41	2.13	2.47	2.69
2"	1.90	0.81	4.03	5.56	2.81	2.97	3.19

NOTE: 1 1/4" and 1 1/2" size grips have hex positioned per right view above. All other sizes have hex positioned per left view below.

RSR SERIES 45° CORD GRIP DIMENSIONS



Note: Dimension "E" is across flats

ALUMINUM AND NICKEL-PLATED ALUMINUM

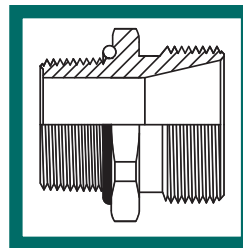
Conduit Size	A Body Bore	B	C	D	E Body Hex	F Nut Dia.	G
3/8"	0.45	0.44	1.51	2.00	0.98	0.96	1.31
1/2"	0.58	0.56	1.88	2.39	1.03	1.26	1.50
3/4"	0.76	0.63	2.25	2.88	1.25	1.55	1.99
1"	0.99	0.63	2.41	3.13	1.44	1.74	2.00
1 1/4"	1.28	0.69	3.19	4.41	2.13	2.47	2.69
1 1/2"	1.40	0.69	3.19	4.41	2.13	2.47	2.69
2"	1.90	0.81	4.03	5.56	2.81	2.97	3.19

NOTE: 1 1/4" and 1 1/2" size grips have hex positioned per right view above. All other sizes have hex positioned per left view below.

CONDUIT SEALS AND LOCKNUTS

Conduit Seals	Size	Locknuts
SOR-38	3/8"	LN-38
SOR-1-VNT	1/2"	LN-50
SOR-2	3/4"	LN-75
SOR-3	1"	LN-100
SOR-4	1 1/4"	LN-125
SOR-51	1 1/2"	LN-150
SOR-16	2"	LN-200
—	2 1/2"	LN-250
—	3"	LN-300

RSR SERIES CORD GRIPS WITH O-RINGS



These Tuff-Seal RSR grips feature an O-ring that creates a watertight seal when they are used in a taper tapped conduit hub. In these applications gaskets must be used in either the knockouts or clearance drilled holes. To ensure a more reliable seal an embedded O-ring should be utilized. Many of the standard Tuff-Seal cord grips listed

in this catalog feature a body hex large enough to permit machining a groove for the embedded O-ring.