

A large jet engine is shown in a factory setting, mounted on a blue metal stand. The engine is the central focus, with its complex internal components visible. The background shows the industrial structure of the factory, including a high ceiling with a steel truss system and various blue metal structures. The lighting is bright, highlighting the metallic surfaces of the engine and the surrounding environment.

We Are Engine Accessories
Engine-Qualified Products and Accessories

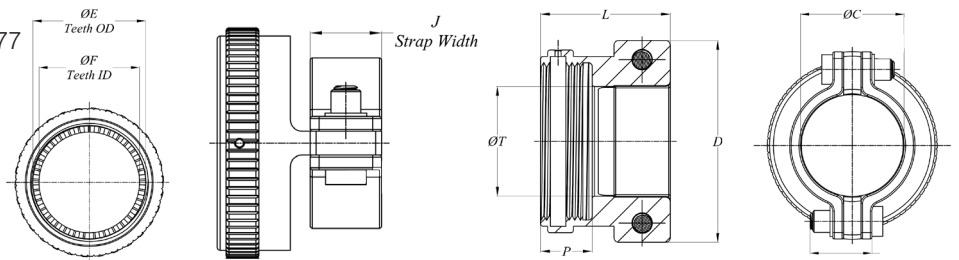
Amphenol Pcd

Backshells

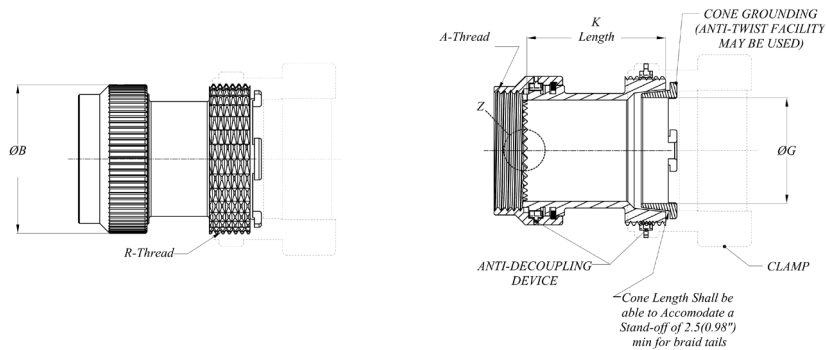
Qualified to ADS Product Standard ESC 75, 76, and 77

Amphenol's Backshells are qualified to AS85049 and provide strain relief, environmental sealing and EMI/RFI shielding. Also RoHS compliant, they are available in aluminum, stainless steel, brass, and composite—and come in various finishes. Different designs (i.e. straight, 90°, and 45°) are available and customization is always an option. In addition, by using an Electron Beam Welding process, they now meet Aerospace Defense Security (ADS) standards ESC 75, 76, & 77 - and are ideal for aerospace engine applications.

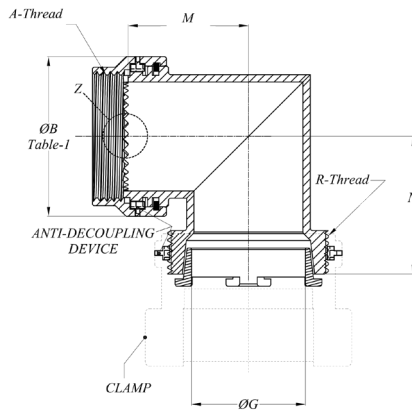
- Qualified to ADS Product Standard ESC 75, 76, 77
- Three product types: straight, 90°, 45°
- 10 shell sizes to choose from
- RFI/EMI Cone Grounding
- 100% Anti-Decoupling



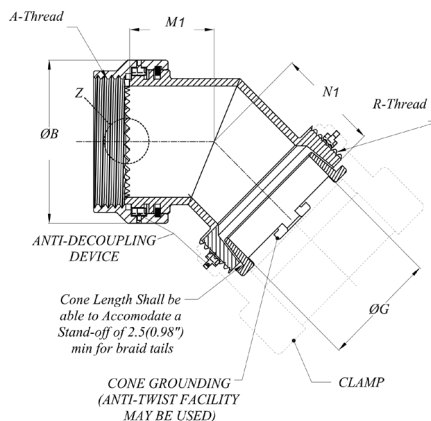
Straight/ESC 75



90°/ESC 76



45°/ESC 77



* For all notations shown in the diagrams, please reference the Tables on **pg.2**.

Backshells Specifications

Dimensions										
Shell Size	A Thread Size Class B	ØB		K		M		N		R Thread Size Class 2A
		Max (mm)	Max (inch)	-2.00 (mm)	-0.080 (inch)	-1.02 (mm)	-0.040 (inch)	-1.02 (mm)	-0.040 (inch)	
08	0.5000 - 20UNEF	19.05	0.750	25.40	1.000	22.35	0.880	26.42	1.040	0.6250 - 24UNEF
10	0.6250 - 24UNEF	22.35	0.880	25.40	1.000	23.88	0.940	27.69	1.090	0.8750 - 20UNEF
12	0.7500 - 20UNEF	25.40	1.000	25.40	1.000	25.40	1.00	29.21	1.150	1.0000 - 20UNEF
14	0.8750 - 20UNEF	28.70	1.130	25.40	1.000	26.67	1.050	30.48	1.200	1.0625 - 18UNEF
16	1.0000 - 20UNEF	31.75	1.250	25.40	1.000	28.19	1.110	31.75	1.250	1.1875 - 18UNEF
18	1.0625 - 18UNEF	33.53	1.320	31.75	1.250	29.21	1.150	33.02	1.300	1.3125 - 18UNEF
20	1.1875 - 18UNEF	36.58	1.440	31.75	1.250	30.73	1.210	34.54	1.360	1.4375 - 18UNEF
22	1.3125 - 18UNEF	39.88	1.570	31.75	1.250	32.26	1.270	36.07	1.420	1.5625 - 18UNEF
24	1.4375 - 18UNEF	42.93	1.690	38.10	1.500	33.78	1.330	37.59	1.480	1.7500 - 18UNS
28	1.7500 - 18UNS	50.80	2.000	38.10	1.500	40.89	1.610	40.64	1.600	2.0000 - 18UNS

Shell Size	ØC		ØD		J		L		P		ØT		Screw & Nut Thread Size
	±0.76 (mm)	±0.030 (inch)	Max (mm)	Max (inch)	±0.76 (mm)	±0.030 (inch)	Max (mm)	Max (inch)	Min (mm)	Min (inch)	±0.76 (mm)	±0.030 (inch)	
08	11.12	0.438	27.23	1.072	8.690	0.342	23.62	0.930	8.8	0.346	10.06	0.396	0.138 - 32UNJC
10	14.28	0.562	30.84	1.214	8.690	0.342	25.15	0.990	10.31	0.406	11.99	0.472	0.138 - 32UNJC
12	15.88	0.625	32.59	1.283	8.690	0.342	27.94	1.100	10.31	0.406	15.72	0.619	0.138 - 32UNJC
14	19.05	0.750	35.99	1.417	11.860	0.467	27.94	1.100	10.31	0.406	18.11	0.713	0.164 - 32UNJC
16	23.83	0.938	43.18	1.700	11.860	0.467	27.94	1.100	10.31	0.406	21.44	0.844	0.164 - 32UNJC
18	23.83	0.938	43.18	1.700	11.860	0.467	27.94	1.100	10.31	0.406	23.37	0.920	0.164 - 32UNJC
20	31.75	1.250	51.36	2.022	11.860	0.467	29.11	1.146	10.31	0.406	26.42	1.040	0.164 - 32UNJC
22	31.75	1.250	51.36	2.022	11.860	0.467	29.11	1.146	10.31	0.406	29.90	1.177	0.164 - 32UNJC
24	34.93	1.375	54.66	2.152	11.860	0.467	30.76	1.211	10.31	0.406	33.35	1.313	0.164 - 32UNJC
28	39.67	1.562	59.44	2.340	11.860	0.467	30.76	1.211	10.31	0.406	39.80	1.567	0.164 - 32UNJC

Shell Size	ØE		ØF		ØG		# of Teeth	M1		N1	
	Ref. (mm)	Ref. (inch)	±0.13 (mm)	±0.005 (inch)	±0.76 (mm)	±0.030 (inch)		-1.02 (mm)	-0.04 (inch)	-1.02 (mm)	-0.04 (inch)
08	11.10	0.437	9.17	0.361	10.060	0.396	12	19.41	0.764	24.13	0.950
10	14.53	0.572	11.10	0.437	11.990	0.472	15	20.04	0.789	24.89	0.980
12	17.45	0.687	14.83	0.584	15.720	0.619	21	20.65	0.813	25.40	1.000
14	20.62	0.812	17.22	0.678	18.110	0.713	24	21.08	0.830	26.16	1.030
16	23.80	0.937	20.55	0.809	21.440	0.844	30	21.77	0.857	26.67	1.050
18	25.20	0.992	22.48	0.885	23.370	0.920	33	22.17	0.873	26.92	1.060
20	28.37	1.117	25.53	1.005	26.420	1.040	36	22.81	0.898	27.43	1.080
22	31.55	1.242	29.00	1.142	29.900	1.177	39	23.50	0.925	28.45	1.120
24	34.72	1.367	32.46	1.278	33.350	1.313	42	24.04	0.948	29.21	1.150
28	42.75	1.683	38.91	1.532	39.800	1.567	54	29.62	1.166	33.53	1.320

Backshells Specifications

ESC 75	E	08	A
Specification Number	Material / Finish (Table-4)	Shell Size (Table-1)	No Code - Recess Screw law Nas7100. Code - A - Denotes Screw Recess law Nasm14191 & Nasm33781

Materials & Finishes			
Category	Material		Finish
D	All	Stainless Steel	Passivation
E	Coupling Nut	Stainless Steel	Passivation
	Body & Clamp	Aluminum	Electroless Nickel



Electron Beam Welding

Electron beam welding (EBW) is a special metal joining technique used to create high integrity joints with minimal distortion. Since this method of welding is one of the most precise and flexible welding processes available, Amphenol perfected the technique for aerospace and defense applications – more specifically, for their ESC75, 76, 77 approved backshells.

Benefits of EBW include:

- Low heat input for the welded parts
- Minimal distortion
- Narrow melt zone (MZ) and narrow heat affected zone (HAZ)
- Ability to produce deep welds (up to 5" in steel with a single pass)
- Cleanliness of the welds due to the vacuum environment
- High welding speed
- Welding of all metals even with high thermal conductivity
- Welding of metals with dissimilar melting points
- Vacuum process yields very low failure rates
- Machine process guaranteed for reliability and reproducibility of the operating conditions
- Cost-effective welding process for large production runs

Mass of electron 9×10^{-31} kg
Electrical charge 10^{-19} C

Electron beam

Kinetic energy is converted into heat on impact with the work piece

ESC 53 High Temperature Rubber Bushings

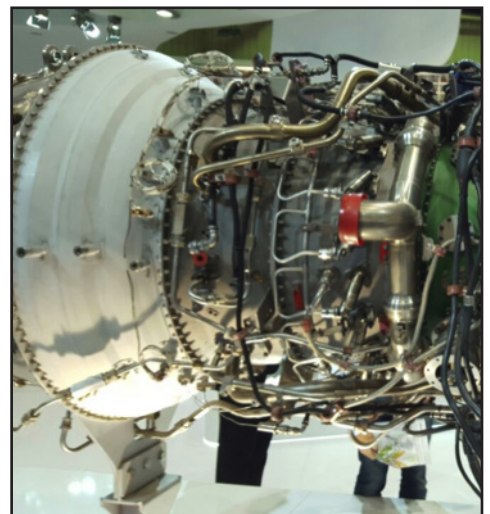
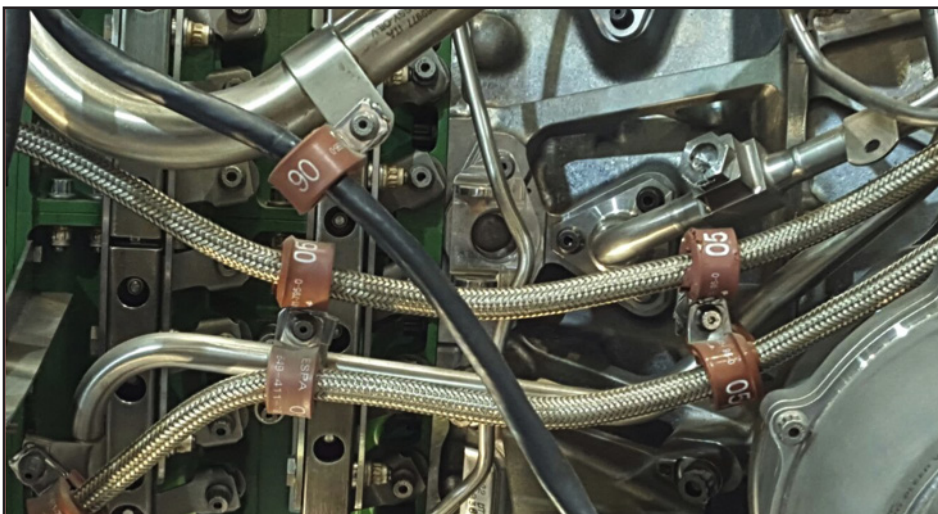
Aerospace-approved ESC 53 Cable Support Bushings for Engine & Marine applications

A bushing is a type of vibration isolator. It provides an interface between two parts, damping the energy transmitted through the bushing.

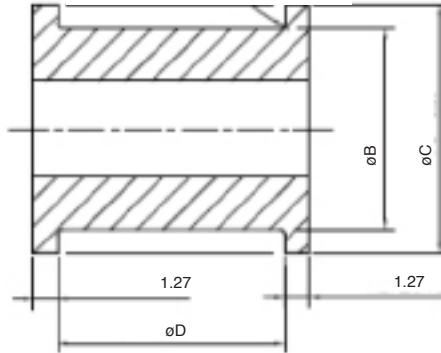
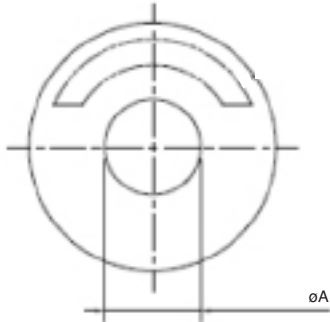
Amphenol's High Temperature Electrical Bushings are made from a silicone compound, and are qualified to ESC 53 Aerospace Defense Security Space (ADS) standards. They have a temperature range of - 20° C to + 260° C (- 4° F to 500° F) and although there are over 70 part numbers to choose from, customized product is always an option.

Features and Benefits

- Approved to ESC 53 Aero Defense Security Space (ADS) standards
- Ideal for high temperature applications
- Wide variety of bushings sizes
- Customization available



Rubber Bushings Specifications



Technical data

1. Material: silicone elastomer
2. Color: red

Amphenol P/N	ADS Standards P/N	A ±0.13	B +0.50 -0.00	C +0.50 -0.00	D ±0.38	
507452	ESC 53-1	6.10	8.90	11.43	12.10	
507452-01	ESC 53-2	5.10	10.67	13.20		
507452-02	ESC 53-3	6.10				
507452-03	ESC 53-4	7.1	13.20	15.75		
507452-04	ESC 53-5	8.13				
507452-05	ESC 53-6					
507452-06	ESC 53-7	9.14	14.22	16.76		15.24
507452-07	ESC 53-8	12.20	18.29c	20.83		
507452-08	ESC 53-9					
507452-09	ESC 53-10					
507452-10	ESC 53-11	16.26	21.34	23.88		
507452-11	ESC 53-12	11.18	23.27	25.90	18.42	
507452-12	ESC 53-13	16.26				
507452-13	ESC 53-14	17.27				
507452-14	ESC 53-15	18.29				
507452-15	ESC 53-20	3.18	6.86	9.53	9.53	
507452-16	ESC 53-21	3.81				
507452-17	ESC 53-22	5.08	11.68	14.60	9.53	
507452-18	ESC 53-23	6.35				
507452-19	ESC 53-24	7.62				
507452-20	ESC 53-25	6.35	14.99	17.78	11.43	
507452-21	ESC 53-26	7.62				
507452-22	ESC 53-27	8.89				
507452-23	ESC 53-28	6.35				
507452-24	ESC 53-29	3.94	16.51	19.05	11.43	
507452-25	ESC 53-30	5.60				
507452-26	ESC 53-31	7.88				
507452-27	ESC 53-32	3.94	19.81	22.35	15.24	
507452-28	ESC 53-33	5.35				
507452-29	ESC 53-34	7.10				
507452-30	ESC 53-35	10.40				
507452-31	ESC 53-36	3.94	24.76	27.94	15.24	
507452-32	ESC 53-37	6.60				
507452-33	ESC 53-38	9.15				
507452-34	ESC 53-39	13.70	32.51	35.56	15.24	
507452-35	ESC 53-40	6.60				
507452-36	ESC 53-41	9.15				
507452-37	ESC 53-42	12.70				
507452-38	ESC 53-43	19.05	35.56	38.10	15.24	
507452-39	ESC 53-44	6.60				
507452-40	ESC 53-45	9.15				
507452-41	ESC 53-46	12.70	7.10	9.65	13.26	
507452-42	ESC 53-50	19.05				
507452-43	ESC 53-51	6.60				
507452-44	ESC 53-52					
507452-45	ESC 53-53	9.15	10.36	12.90	14.86	
507452-46	ESC 53-54	12.70				
507452-47	ESC 53-55	19.05				
507452-48	ESC 53-56	3.94	13.50	16.05	16.50	
507452-49	ESC 53-57	5.60				
507452-50	ESC 53-58	7.88				
507452-51	ESC 53-59	3.94	15.00	17.65	16.50	
507452-52	ESC 53-60	5.35				
507452-53	ESC 53-61	7.10				
507452-54	ESC 53-62	10.40				
507452-55	ESC 53-63	3.94	18.30	20.80	18.85	
507452-56	ESC 53-64	6.60				
507452-57	ESC 53-65	9.15				
507452-58	ESC 53-66	13.70	23.00	25.60	18.85	
507452-59	ESC 53-67	6.60				
507452-60	ESC 53-68	9.15				
507452-61	ESC 53-69	12.70				
507452-62	ESC 53-70	19.05	30.50	33.00	12.70	
507452-63	ESC 53-71	6.60				
507452-64	ESC 53-72	9.15				
507452-65	ESC 53-73	12.70	38.10	40.60	12.70	
507452-66	ESC 53-74	19.05				
507452-67	ESC 53-75	6.60				
507452-68	ESC 53-76	9.15				
507452-69	ESC 53-77	12.70				
507452-70	ESC 53-78	19.05				

Amphenol Pcd

72 Cherry Hill Dr. Beverly, MA. 01915

info@amphenolpcd.com (978) 624.3400

www.amphenolpcd.com

Amphenol Pcd, a subsidiary of Amphenol Corporation, is one of the world's leading suppliers of interconnect products for Military, Commercial Aerospace and Industrial applications. Located in Beverly, Massachusetts, the company designs and manufactures a wide range of products - System Attachments, Junction Modules, Relay Sockets, Rectangular & Circular connectors, and Cable Assemblies. Each product is made and engineered with the highest quality standards in the industry. With facilities in North America and Asia, Amphenol Pcd products are chosen by hundreds of OEMs around the world, reliant on Amphenol's technical excellence, global network of distributors, and cost-effective solutions for custom systems.

FOLLOW US

