

Counterbored Urethane Bumpers / Counterbored Urethane & Rubber Collars

Dimension Configurable

Collar is selectable to match the counterbored hole size.

Counterbored Urethane Bumpers

Type		Material	Hardness	Color
Standard Grade	Precision Grade			
AZFS	—	Ether Polyurethane	Shore A95	(1) Natural Color or (2) Black
AZFH	AZAH		Shore A90	
AZFM	AZAM		Shore A70	
AZFL	—	Ester Polyurethane	Shore A50	(3) Gray
AZFY	—		Shore A30	
AZFHE	—	Antistatic Polyurethane	Shore A90	(3) Gray
AZFME	—		Shore A70	
AZFLE	—		Shore A50	
AZFAN	—	Low Rebound Urethane	Shore A70	

Ⓢ Properties of Low Rebound Urethane P.2569.

Characteristic Values of Antistatic Urethane

Specific Volume Resistivity	2.1 x 10 ⁹ Ω·cm
Surface Resistivity	4.0 x 10 ⁹ Ω

(Conditions: Temperature 30°C Humidity 60%)
 Ⓢ All other properties are equal to that of urethane of the same hardness.

Standard Grade

Precision Grade

D Tolerance

Dimension	D Tolerance
50 or Less	±0.2
51-60	±0.3
61-100	±0.5

L Tolerance

Dimension	Tolerance
6-100	+0.2 0
101-200	+0.3 0

V / H / G Tolerance

Dimension	V	H	G
30 or Less	±0.2	±0.2	±0.2
31-90	±0.3	±0.5	±0.3
91-	—	±0.5	—

Ⓢ The tolerances are verified at 23°C ± 2 and 40-80% humidity.

Configurable Type

Part Number	D	1 mm Increment			L	C Color
		V	H	G		
Standard Grade AZFS Shore A95 AZFH Shore A90 AZFM Shore A70 AZFL Shore A50 AZFY Shore A30 AZFAN Shore A70	8-15 1 mm Increment	2-10	3≤H<L	3-90 When L-H≤30 G≤D-4 min 2 30 or less	6-40 40-60 61-80	N Natural Color
	16-30 1 mm Increment	2-16			6-40 40-60 61-80 10-40 40-60 61-80 81-100 101-150	
Antistatic, Standard Grade AZFHE Shore A90 AZFME Shore A70 AZFLE Shore A50	31-45 1 mm Increment	5-25	5≤H<L	When L-H>30 G≤D-6 min 3 31 or more	25-40 40-60 61-80 81-100 101-150	B Black
	46-60 1 mm Increment	5-30			25-40 40-60 61-80 81-100 101-150	
Precision Grade AZAH Shore A90 AZAM Shore A70	61-80 1 mm Increment	5-70	5≤H<L	When L-H>30 G≤D-6 min 3 31 or more	25-40 40-60 61-80 81-100 101-150 151-200	B Black
	85-100 5 mm Increment				25-40 40-60 61-80 81-100 101-150 151-200	

Ⓢ Color is selectable only for ether and ester polyurethane.

Part Number Example
 AZFS - D22 - V5 - H10 - G10 - L38 - N

Counterbored Urethane & Rubber Collars

Type	Material	Surface Treatment
AZC	1045 Carbon Steel or Equivalent	Black Oxide
AZM	1045 Carbon Steel or Equivalent	Electroless Nickel Plating
AZS	304 Stainless Steel	—

Ⓢ RoHS 10

Part Number	Type	No.	d	D	H	T	L	h
AZC AZM AZS	3	3.5	5.5	5	7	7.5		
	4	4.5	6.5	5	7	8.5		
	4A	4.5	6.5	7	9	10		
	5	5.5	8	2	10	12		
	6	6.6	9	8	10	14.5		
	8	9	11.5	6	8	17		
	8A	9	11.5	10	3	13		
	10	11	14	10	3	13		

Ⓢ No.10 is for AZC only.

Part Number Example
 AZC4A

Abrasion Resistant / Heat Resistant Counterbored Urethane Bumpers

L Dimension Fixed / Configurable Type

Abrasion Resistant / Heat Resistant Counterbored Urethane Bumpers - Configurable Type

Type	Material	Hardness	Color
ZVULFH	Super Abrasion Resistant Vulkollan®	Shore A92	Beige
ZVULFM		Shore A68	
AZEFH	Abrasion Resistant Urethane	Shore A90	Dark Brown
AZEFM		Shore A70	
AZFH	Heat Resistant Urethane	Shore A90	Brown

Ⓢ Vulkollan® is a registered trademark of Bayer AG.

Ⓢ No change in physical property or characteristics due to aged discoloration.

Ⓢ For V2, H≤50

D Tolerance		V / H / G Tolerance			
Dimension	D Tolerance	Dimension	V	H	G
50 or Less	±0.2	30 or Less	±0.2	±0.2	±0.2
51-60	±0.3	31-90	±0.3	±0.5	±0.3
61-100	±0.5	91-	—	±0.5	—

Part Number	D	1 mm Increment			L
		V	H	G	
Standard Grade Vulkollan® ZVULFH Shore A92 ZVULFM Shore A68	8-15 1 mm Increment	2-10	3≤H<L	3-90 When L-H≤30 G≤D-4 min 2 30 or less	6-40 40-60 61-80
	16-30 1 mm Increment	2-16			6-40 40-60 61-80 10-40 40-60 61-80
Standard Grade High Abrasion Resistant Urethane AZEFH Shore A90 AZEFM Shore A70	31-45 1 mm Increment	5-25	5≤H<L	When L-H>30 G≤D-6 min 3 31 or more	25-40 40-60 61-80 81-100 101-150
	46-60 1 mm Increment	5-30			25-40 40-60 61-80 81-100 101-150
Standard Grade Heat Resistant Urethane AZFH Shore A90	61-80 1 mm Increment	5-70	5≤H<L	When L-H>30 G≤D-6 min 3 31 or more	40-60 61-80 81-100 101-150
	85-100 5 mm Increment				25-40 40-60 61-80 81-100 101-150 151-200

Ⓢ Vulkollan® is available with D≤80 and L≤50.

Part Number Example
 ZVULFH - D22 - V5 - H10 - G10 - L38