

# Highly Abrasion Resistant Sheets, Heat Resistant Urethane Sheets

## Vulkollan® / Abrasion Resistant Urethane

Vulkollan® and Abrasion Resistant Urethane are 6 times and 2.5 times more abrasion-resistant than the standard urethane respectively, and Heat Resistant Urethane is capable of withstanding up to 120°C.  
 A, B Configurable Adhesive Type is now available. For heat resistant urethane gasket products, see P453

**A Selectable Type**  
 Square Type (No Adhesive, Adhesive) | Band Type (No Adhesive, Adhesive)

**A, B Configurable Type**  
 Standard Type | Hole Type (1-Hole 1H, 2-Hole 2H, 3-Hole 3H, 4-Hole 4H, 6-Hole 6H)

**Properties P389**  
 Accuracy Standards, A, B Tolerance, Hole Machining Details

**Material & Hardness**

Material	Hardness	Color
Super Abrasion Resistant Urethane Vulkollan® (Ester Polyurethane)	Shore A92	Beige
Abrasion Resistant Urethane (Ester Polyurethane)	Shore A70	Dark Brown
Heat Resistant Urethane (Ester Polyurethane)	Shore A90	Brown

**Tolerance**

Tolerance	Tolerance
1-4	±0.3
5-10	±0.4
15-30	±0.5

**A, B Tolerance**

A, B Tolerance	Tolerance
200 or Less	±0.5
201-300	±1.0
301-400	±1.2
401-500	±1.5

**Hole Machining Details**

Screw Nominal Dia.	3	4	5	6	8	10
d	3.5	4.5	5.5	6.5	9	12
d1	6.5	8	9.5	11	14	17.5
h	3.5	4.5	5.5	6.5	9	11

**Notes:**  
 A, B dimension tolerance has been changed. Please refer to the accuracy standards on the right.  
 Vulkollan® may experience discoloration with time, but physical property and characteristics remain unchanged.  
 For Adhesive Type T4 or more, the adhesive tape may tear from the body. Please use it as temporary fixing, or in combination with bolt fixing.  
 Temperature limit for seals is 80°C.

### A Selectable - Square Type

Part Number	T	A Selection
No Adhesive	(1)	300
Adhesive	(2)	
VULHS VULHSA (Shore A92)	3	
VULMS VULMSA (Shore A68)	4	
VULMSS VULMSSA (Shore A68)	5	
UTEXH UTEXHA (Shore A90)	6	
UTEXM UTEXMA (Shore A70)	8	
UTHHS UTHHSA (Shore A90)	*10	
	*15	
	*20	
	*25	
	*30	

**500**  
 Only 300 is available for Vulkollan®.

### A Selectable - Band Type

Part Number	T	A Selection
No Adhesive	(1)	3
Adhesive	(2)	5
VULHS VULHSA (Shore A92)	3	10
VULMS VULMSA (Shore A68)	4	20
VULMSS VULMSSA (Shore A68)	5	30
UTEXH UTEXHA (Shore A90)	6	40
UTEXM UTEXMA (Shore A70)	8	50
UTHHS UTHHSA (Shore A90)	*10	80
	*15	100

### A, B Configurable - Standard Type

Part Number	T	A	B
No Adhesive	(1)	10-500	10-500
Adhesive	(2)		
VULHS VULHSA (Shore A92)	3		
VULMS VULMSA (Shore A68)	4		
VULMSS VULMSSA (Shore A68)	5		
UTEXH UTEXHA (Shore A90)	6		
UTEXM UTEXMA (Shore A70)	*10		
UTHHS UTHHSA (Shore A90)	*15		
	*20		
	*25		
	*30		

**Notes:**  
 L dimension is 500mm.  
 Vulkollan® is only available for dimensions marked with \* only.  
 Vulkollan® (Shore A68) is available for T=10 or 15 only.

### A, B Configurable - Hole Type

Part Number	Type	Nominal	T	1mm Increment (A≥B≥T)		0.5mm Increment		Screw Nominal Dia. Selection										
				A	B	F	G	N (Through Hole)	Z (Counterbored Hole)									
No Adhesive Adhesive	VULHS VULHSA (Shore A92)	1H	(1)	25-500	25-500	5-495	5-495	3	-									
			(2)															
			3															
			4															
			5															
			6															
			8															
			*10															
			*15															
			*20															
			*25															
			*30															
			No Adhesive Adhesive							VULMS VULMSA (Shore A68)	2H	(1)	25-500	25-500	9-491	9-491	4	-
												(2)						
												3						
4																		
5																		
6																		
8																		
*10																		
*15																		
*20																		
*25																		
*30																		
No Adhesive Adhesive	UTEXHS UTEXHSA (Shore A90)	3H		(1)	25-500	25-500	9-291	9-491	6			-						
				(2)														
				3														
			4															
			5															
			6															
			8															
			*10															
			*15															
			*20															
			*25															
			*30															
			No Adhesive Adhesive	UTEXMS UTEXMSA (Shore A70)						4H	(1)		25-500	25-500	9-245	9-291	8	-
											(2)							
											3							
4																		
5																		
6																		
8																		
*10																		
*15																		
*20																		
*25																		
*30																		
No Adhesive Adhesive	UTHHS UTHHSA (Shore A90)	6H			(1)	25-500	25-500	9-170	9-291		10	-						
					(2)													
					3													
			4															
			5															
			6															
			8															
			*10															
			*15															
			*20															
			*25															
			*30															

T (1) and (2) are available for Abrasion Resistant Urethane only. T dim. For Vulkollan® is available with \* sign only. (For Shore A68, only available with T=10 or 15.)  
 A≥B≥T  
 Dimension F Specification Range: For 1H: d(d1)/2+2.5≤F≤A-d(d1)/2-2.5; for 2H, 4H: d(d1)+5≤F≤A-d(d1)-5; for 3H, 6H: d(d1)+5≤F≤A/2-d(d1)/2-2.5.  
 Dimension G Specification Range: For 1H, 2H, 3H: d(d1)/2+2.5≤G≤B-d(d1)/2-2.5; for 4H, 6H: d(d1)+5≤G≤B-d(d1)-5. (d for through holes, d1 for counterbored holes.)

### Ordering Example

**A Selectable Type**  
 Part Number - A  
 VULHS10 - 300  
 UTHHS10 - 100

**A, B Configurable Type**  
 Part Number - A - B - F - G - Screw Nominal Dia.  
 VULHS10 - 300 - 200  
 UTEXHS3H5 - 200 - 150 - F140 - G120 - N5

**Alterations**

**Hole Position from Left** | **Hole Position from Bottom**

**Code**  
 XC=1mm Increment  
 YC=1mm Increment

**Spec.**  
 5≤XC≤486 (up to 286 for Vulkollan®)  
 5≤YC≤486 (up to 286 for Vulkollan®)  
 d(d1)/2+2.5≤XC≤A-F-d(d1)/2-2.5  
 d(d1)/2+2.5≤YC≤B-G-d(d1)/2-2.5

### A Selectable - Square Type

Type	Unit Price							
	Vulkollan®		Abrasion Resistant		Heat Resistant		Abrasion Resistant Heat Resistant	
	A92	A68	A90	A70	A90	A90	A70	A90
VULHS VULMSA	300							
UTEXH UTEXHA								
UTEXM UTEXMA								
UTHHS UTHHSA								

**Adhesive Charge:**  
 Adhesive Type = Unit Price + Adhesive Charge

### A Selectable - Band Type

Part Number	Type	T	Unit Price								
			A								
			3	5	10	20	30	40	50	80	100
VULHS VULMSA	No Adhesive	10									
VULMS VULMSA	Adhesive	10									
UTEXH UTEXHA	No Adhesive	4									
UTEXM UTEXMA	Adhesive	4									
UTHHS UTHHSA	No Adhesive	5									
	Adhesive	5									

**Adhesive Charge:**  
 Adhesive Type = Unit Price + Adhesive Charge

### A, B Configurable Type

Part Number	Type	T	A	Unit Price				
				B				
				10-100	101-200	201-300	301-400	401-500
VULHS VULMSA	No Adhesive	1	10-100					
VULMS VULMSA	Adhesive	1	10-100					
UTEXHS UTEXHSA	No Adhesive	2	10-100					
UTEXMS UTEXMSA	Adhesive	2	10-100					
UTHHS UTHHSA	No Adhesive	3	10-100					
	Adhesive	3	10-100					

**Notes:**  
 ( ) Material Multiplier  
 T (1) and (2) are available for Abrasion Resistant Urethane UTEXHS and UTEXMS only.

Part Number	Type	T	A	Unit Price				
				B				
				10-100	101-200	201-300	301-400	401-500
VULHS VULMSA	No Adhesive	8	10-100					
VULMS VULMSA	Adhesive	8	10-100					
UTEXHS UTEXHSA	No Adhesive	10	10-100					
UTEXMS UTEXMSA	Adhesive	10	10-100					
UTHHS UTHHSA	No Adhesive	15	10-100					
	Adhesive	15	10-100					

**Notes:**  
 ( ) Material Multiplier

### Hole Machining Charge

The price of the Hole Type is found by adding the standard type unit price and the hole machining charge.

(Ex.) Part Number - A - B - F - G - Screw Nominal Dia.  
 UTHHS3H5 - 500 - 400 - F240 - G160 - N8

(Unit Price) x (Material Multiplier) = Unit Price of Standard Type  
 (Standard Type Unit Price) + (Hole Machining Charge) = Hole Type Unit Price

**Notes:**  
 Vulkollan® shore A68 (VULMSS, VULMSSA) is available for dimensions marked with \* only.  
 The price of this product is the unit price shown in the table multiplied by material multiplier.

(Ex.) Part Number - A - B >>>  
 VULMSS10 - 300 - 200  
 (Unit Price) x (Material Multiplier) = Unit Price of Standard Type