

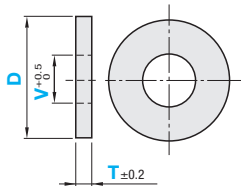
Urethane Washers

Standard, Antistatic, Heat Resistant, Vulkollan®, Abrasion Resistant, Ceramic Urethane, Adhesive

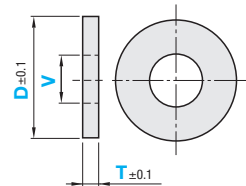
■ Adhesive Type is convenient for temporary fixing.



Standard Grade



Precision Grade



⚠ For Vulkollan®, see the tolerance table.

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

• Standard Grade Tolerance

D Tolerance	
D	Tolerance
6~40	±0.2
41~60	±0.3
61~100	±0.4

⚠ For Vulkollan®, see the table on the right.

D Tolerance (Vulkollan®)	
D	Tolerance
6~40	±0.5
41~60	±0.6
61~100	±0.7

V Tolerance +0.3

V Tolerance ±0.3

T Tolerance (Vulkollan®)	
T	Tolerance
3~5	±0.5
5.5~10	±0.2

• Precision Grade Tolerance

V Tolerance	
V	Tolerance
2~50	+0.1 0
51~80	+0.2 0

Type	Standard Grade	Precision Grade	Material	Hardness	Photo No., Color
Standard	URWS	UAWS	Standard Urethane (Ether Polyurethane)	Shore A95	① Natural Color
	URWH	UAWH		Shore A90	
	URWM	UAWM		Shore A70	
	URWL		Standard Urethane (Ester Polyurethane)	Shore A50	③ Brown
	URHWH		Heat Resistant Urethane	Shore A90	
	UREWH		Abrasion Resistant Urethane	Shore A90	
Configurable Type	UREWM			Shore A70	④ Dark Brown
	URFS	UAFSN	Standard Urethane (Ether Polyurethane)	Shore A95	
	URFH	UAFH		Shore A90	
	URFM	UAFM		Shore A70	① Natural Color
	URFL		Standard Urethane (Ester Polyurethane)	Shore A50	
	URFY			Shore A30	
	URFHE		Antistatic Polyurethane	Shore A90	② Gray
	URFME			Shore A70	
	URFLE			Shore A50	
	URHFFH		Heat Resistant Urethane	Shore A90	③ Brown
	VULFH		Super Abrasion Resistant Urethane Vulkollan®	Shore A92	
	VULFM			Shore A68	
	UREFH		Abrasion Resistant Urethane	Shore A90	④ Dark Brown
	UREFM			Shore A70	
	URCES		Ceramic Urethane	Shore A95	
	URCEH			Shore A90	⑥ Gray
	URCEM			Shore A70	

⚠ For features of Ceramic Urethane, see P.389.

⚠ Urethane turns yellow by aging, but physical property or characteristics remain unchanged.

⚠ For Yellow Discoloration of Urethane, see P.392.

⚠ Depending on the production lot, the side face may show marks from machining.

Characteristic Values of Antistatic Urethane

Specific Volume Resistivity	2.1x10 ⁹ Ω · cm
Surface Resistivity	4.0x10 ⁹ Ω

(Conditions: Temperature 30°C Humidity 60%)

⚠ All other properties are equal to those of urethane of the same hardness.

Standard

Part Number		V										T									
Type	D	Selection										Selection									
Standard Grade	6	2										1	2	3							
URWS (Standard Shore A95)	8	2	3	4								1	2	3							
URWH (Standard Shore A90)	10	3		4	5	6						1	2	3	5						
URWM (Standard Shore A70)	12				4	5	6	8						1	2	3	5				
URWL (Standard Shore A50)	15				4	5	6	8	10						1	2	3	5			
URHWH (Heat Resistant Shore A90)	20				5		6	8	10	12					3			5	10		
UREWH (Abrasion Resistant Shore A90)	25				5		6	8	10	12	16	20					3	5	10		
UREWM (Abrasion Resistant Shore A70)	30				5		6	8	10	12	16	20					3	5	10		
Precision Grade	35				8			10	12	16	20	25					5			10	
UAWS (Standard Shore A95)	40				8			10	12	16	20	25	30					5			10
UAWH (Standard Shore A90)	50				8			10	12	16	20	25	30					5			10
UAWM (Standard Shore A70)	60							12			16	20	25	30	40					5	10

Configurable Type

Part Number				D		V		T	
Type				1mm Increment		1mm Increment		0.5mm Increment	
Standard Grade									
URFS	(Standard Urethane Shore A95)	URHFFH	(Heat Resistant Urethane Shore A90)	6~15		0 (No Hole) 2~41 (V≤D-4)		1.0~5.0	
URFH	(Standard Urethane Shore A90)	VULFH	(Vulkollan® Shore A92)					5.5~10.0	
URFM	(Standard Urethane Shore A70)	VULFM	(Vulkollan® Shore A68)	16~30				1.0~5.0	
URFL	(Standard Urethane Shore A50)	UREFH	(Abrasion Resistant Urethane Shore A90)					5.5~10.0	
URFY	(Standard Urethane Shore A30)	UREFM	(Abrasion Resistant Urethane Shore A70)	31~45				1.0~5.0	
URFHE	(Antistatic Polyurethane Shore A90)	URCES	(Ceramic Urethane Shore A95)					5.5~10.0	
URFME	(Antistatic Polyurethane Shore A70)	URCEH	(Ceramic Urethane Shore A90)	46~60		0 (No Hole) 10~70 (V≤D-4)		1.0~5.0	
URFLE	(Antistatic Polyurethane Shore A50)	URCEM	(Ceramic Urethane Shore A70)					5.5~10.0	
Precision Grade									
UAFSN	(Standard Urethane Shore A95)			81~100		0 (No Hole) 20~80 (V≤D-4)		1.0~5.0	
UAFH	(Standard Urethane Shore A90)							5.5~10.0	
UAFM	(Standard Urethane Shore A70)							1.0~5.0	

⚠ When V=0, there is no hole. ⚠ Vulkollan® is available for T=3.0 or more. ⚠ For Ceramic Urethane, T=5.0 or more.



Ordering Example

Standard

Part Number	-	V	-	T
URWL20	-	10	-	5

Configurable Type

Part Number	-	D	-	V	-	T
URFM	-	D19	-	V3	-	T4.5
URFH	-	D35	-	V18	-	T8.0