

Metal Washer

Hardened Type, Standard Grade / Precision Grade, T Dimension Selectable

Part Number		Material		Surface Treatment	Hardness
Standard Grade	Precision Grade				
WSSBH	WASBH	S45C (WSSBH)	S45C Equivalent (WASBH)	Black Oxide	45~50HRC
WSSMH	WASMH	S45C Equivalent		Electroless Nickel Plating	
WSSSH	WASSH	SUS440C or 13Cr stainless		-	

* D=16 or Less: CO.2 or Less
 D=20 or More: CO.5 or Less

⚠ Standard Grade is S45C Equivalent.
 ⚠ Depending on thickness and length, S45C Hardened Type may be less than 45HRC.
 ⚠ Stainless Steel Hardened Type (WSSSH, WASSH) may be discolored by hardening.

Part Number	Type	D	V Selection	T Selection	Unit Price					
					Standard Grade			Precision Grade		
					WSSBH	WSSMH	WSSSH	WASBH	WASMH	WASSH
4	2	1	2							
5	2 3	1	2							
6	2 3 4	1	2							
8	2 3 4 5 6	1	2 3 5							
10	2 3 4 5 6 8	1	2 3 5							
12	3 4 5 6 8 10	1	2 3 5							
13	4 5 6 8 10	1	2 3 5							
14	4 5 6 8 10	1	2 3 5							
15	4 5 6 8 10 12	1	2 3 5							
16	4 5 6 8 10 12	1	2 3 5							
20	4 5 6 8 10 12 15 16	2	3 5							
25	6 8 10 12 15 16 20	2	3 5							
30	8 10 12 15 16 20 25	2	3 5							
35	10 12 15 16 20 25	3	5 10							
40	10 12 15 16 20 25 30	3	5 10							
50	10 12 15 16 20 25 30	3	5 10							
60	15 16 20 25 30	3	5 10							

Ordering Example: Part Number - V - T
WASBH14 - 10 - 5

Metal Washer

Hardened Type, Standard Grade / Precision Grade, Dimension Configurable

Part Number		Material		Surface Treatment	Hardness
Standard Grade	Precision Grade				
FWSSCH	FWASCH	S45C Equivalent	S45C Equivalent	Black Oxide	45~50HRC
FWSSBH	FWASBH	S45C Equivalent		Electroless Nickel Plating	
FWSSMH	FWASMH	S45C Equivalent		Electroless Nickel Plating	55HRC~
FWSSK	FWASK	SKS3 Equivalent		Black Oxide	
FWSSKB	FWASKB	SKS3 Equivalent		Electroless Nickel Plating	45~50HRC
FWSSKM	FWASKM	SKS3 Equivalent		Electroless Nickel Plating	
FWSSSH	FWASSH	SUS440C or 13Cr stainless		-	45~50HRC
FWSSSHR	FWASSHR	SUS420J2		Low Temp. Black Chrome Plating	

* D=16 or Less: CO.2 or Less
 D=20 or More: CO.5 or Less

⚠ Depending on thickness and length, S45C Hardened Type may be less than 45HRC.
 ⚠ Stainless Steel Hardened Type (FWSSSH, FWASSH) may be discolored by hardening.

Part Number	D	V 0.5mm Increment (V3 or More)	T 0.1mm Increment	Unit Price																
				Standard Grade					Precision Grade											
				FWSSCH	FWSSBH	FWSSMH	FWSSK	FWSSKB	FWSSKM	FWSSSH	FWSSSHR	FWASCH	FWASBH	FWASMH	FWASK	FWASKB	FWASKM	FWASSH		
Standard Grade	4.0-10.0	0	1.0- 2.0																	
	0.5mm Increment		2.1- 5.0																	
			5.1-10.0																	
	10.5-20.0	0	1.0- 2.0																	
	0.5mm Increment		2.1- 5.0																	
			5.1-10.0																	
	21-30	(Selection)	1.0- 2.0																	
	1mm Increment		2.1- 5.0																	
			5.1-10.0																	
	31-40	2.0	1.0- 2.0																	
	1mm Increment		2.1- 5.0																	
			5.1-10.0																	
	41-50	(0.5mm Increment)	1.0- 2.0																	
	1mm Increment		2.1- 5.0																	
			5.1-10.0																	
	51-60	3.0	1.0- 2.0																	
	1mm Increment		2.1- 5.0																	
			5.1-10.0																	
	61-80	90.0	5.0-10.0																	
	1mm Increment																			
	81-100		5.0-10.0																	
	1mm Increment																			

⚠ D / V Machining Conditions: D≤60→V≤D-2, D≥61→V≤D-4
 ⚠ D / V Machining Conditions of Material SKS3: 4≤D≤10→V≤D-2, 61≤D≤80→V≤D-8, 10.5≤D≤30→V≤D-4, 81≤D≤100→V≤D-10, 31≤D≤60→V≤D-6
 ⚠ No specification available for sizes without declaration of value.

Ordering Example: Part Number - D - V - T
FWSSKB - D71 - V50.0 - T10.0

Alterations: Part Number - D - V - T - (KC, SC, WSC)
FWSSBH - D20 - V10 - T5 - KC

Alterations	Code	Spec.
Keyway Relief 	KC	Adds a keyway relief. Ordering Code: KC Machining Conditions: V≥8 ⚠ Not available for D61 ~ 100.

Alterations	Code	Spec.
One Flat 	SC	Adds a flat. Ordering Code: SC10 SC=1mm Increment SC≥V/2+2 ⚠ Not available for D4 ~ 8.
Two Flats 	WSC	Adds two flats. Ordering Code: WSC10 WSC=1mm Increment WSC≥V+4 ⚠ Not available for D4 ~ 8.