

シム・スペーサー  
ワッシャー  
エンドプレート

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ワッシャー

エンドプレート

## ■ ワッシャー

ワッシャー

P.224

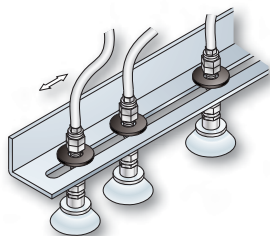


## アプリケーション紹介

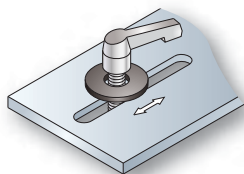


### ワッシャー

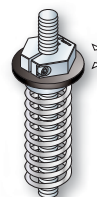
#### ワッシャー



長穴用のワッシャー



長穴用のワッシャー



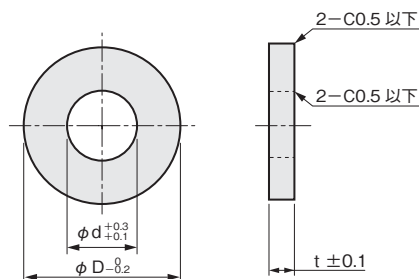
バネ座の確保

## ワッシャー

当日出荷  
受付16時RoHS  
10物質CAD  
2DCAD  
3D

ボルト締め付け時やスペーサーなどにご使用いただけます。

単位：mm



| 材質記号     | 材質／表面処理             |
|----------|---------------------|
| <b>C</b> | 鉄 (S45C)／黒染め        |
| <b>M</b> | 鉄 (S45C)／無電解ニッケルメッキ |
| <b>S</b> | ステンレス (SUS304)      |

| 外径<br>φD | 内径<br>φd | 板厚<br>t | 1 枚単位      |                 |                            |                   |
|----------|----------|---------|------------|-----------------|----------------------------|-------------------|
|          |          |         | 品番         | 価格(円)           |                            |                   |
|          |          |         | □：材質記号     | 黒染め<br><b>C</b> | 無電解<br>ニッケルメッキ<br><b>M</b> | ステンレス<br><b>S</b> |
| 8        | 2        | 1       | W□0802-1   | 110             | 140                        | 160               |
|          |          | 2       | W□0802-2   | 110             | 140                        | 160               |
|          | 3        | 1       | W□0803-1   | 110             | 140                        | 160               |
|          |          | 2       | W□0803-2   | 110             | 140                        | 160               |
|          | 4        | 3       | W□0803-3   | 110             | 140                        | 160               |
|          |          | 1       | W□0804-1   | 110             | 140                        | 160               |
|          |          | 1.5     | W□0804-1.5 | 110             | 140                        | 160               |
|          |          | 2       | W□0804-2   | 110             | 140                        | 160               |
|          | 5        | 3       | W□0804-3   | 110             | 140                        | 160               |
|          |          | 1       | W□0805-1   | 110             | 140                        | 160               |
|          |          | 1.5     | W□0805-1.5 | 110             | 140                        | 160               |
|          |          | 2       | W□0805-2   | 110             | 140                        | 160               |
| 10       | 3        | 1       | W□0805-3   | 110             | 140                        | 160               |
|          |          | 2       | W□0806-1   | 110             | 140                        | 160               |
|          | 4        | 1.5     | W□0806-1.5 | 110             | 140                        | 160               |
|          |          | 2       | W□0806-2   | 110             | 140                        | 160               |
|          | 5        | 1       | W□1003-1   | 140             | 160                        | 180               |
|          |          | 2       | W□1003-2   | 140             | 160                        | 180               |
|          |          | 1       | W□1004-1   | 140             | 160                        | 180               |
|          | 6        | 2       | W□1004-2   | 140             | 160                        | 180               |
|          |          | 3       | W□1004-3   | 140             | 160                        | 180               |
|          |          | 5       | W□1004-5   | 140             | 160                        | 180               |
|          | 7        | 1       | W□1005-1   | 140             | 160                        | 180               |
| 12       | 3        | 2       | W□1005-2   | 140             | 160                        | 180               |
|          |          | 3       | W□1005-3   | 140             | 160                        | 180               |
|          | 4        | 5       | W□1005-5   | 140             | 160                        | 180               |
|          |          | 1       | W□1006-1   | 140             | 160                        | 180               |
|          | 5        | 2       | W□1006-2   | 140             | 160                        | 180               |
|          |          | 3       | W□1006-3   | 140             | 160                        | 180               |
|          | 6        | 5       | W□1006-5   | 140             | 160                        | 180               |
|          |          | 1       | W□1203-1   | 140             | 160                        | 180               |
|          | 7        | 2       | W□1203-2   | 140             | 160                        | 180               |
|          |          |         |            |                 |                            |                   |
|          |          |         |            |                 |                            |                   |

| 外径<br>φD | 内径<br>φd | 板厚<br>t | 1 枚単位    |                 |                            |                   |
|----------|----------|---------|----------|-----------------|----------------------------|-------------------|
|          |          |         | 品番       | 価格(円)           |                            |                   |
|          |          |         | □：材質記号   | 黒染め<br><b>C</b> | 無電解<br>ニッケルメッキ<br><b>M</b> | ステンレス<br><b>S</b> |
| 12       | 4        | 1       | W□1204-1 | 140             | 160                        | 180               |
|          |          | 2       | W□1204-2 | 140             | 160                        | 180               |
|          | 5        | 3       | W□1204-3 | 140             | 160                        | 180               |
|          |          | 5       | W□1204-5 | 140             | 160                        | 180               |
|          | 6        | 1       | W□1205-1 | 140             | 160                        | 180               |
|          |          | 2       | W□1205-2 | 140             | 160                        | 180               |
|          |          | 3       | W□1205-3 | 140             | 160                        | 180               |
|          | 7        | 5       | W□1205-5 | 140             | 160                        | 180               |
|          |          | 1       | W□1206-1 | 140             | 160                        | 180               |
|          |          | 2       | W□1206-2 | 140             | 160                        | 180               |
|          | 8        | 3       | W□1206-3 | 140             | 160                        | 180               |
|          |          | 5       | W□1206-5 | 140             | 160                        | 180               |
| 14       | 4        | 1       | W□1208-1 | 140             | 160                        | 180               |
|          |          | 2       | W□1208-2 | 140             | 160                        | 180               |
|          | 5        | 3       | W□1208-3 | 140             | 160                        | 180               |
|          |          | 5       | W□1208-5 | 140             | 160                        | 180               |
|          | 6        | 1       | W□1210-1 | 140             | 160                        | 180               |
|          |          | 2       | W□1210-2 | 140             | 160                        | 180               |
|          |          | 3       | W□1210-3 | 140             | 160                        | 180               |
|          | 7        | 5       | W□1210-5 | 140             | 160                        | 180               |
|          |          | 2       | W□1404-2 | 160             | 190                        | 200               |
|          | 8        | 3       | W□1404-3 | 160             | 190                        | 200               |
|          |          | 5       | W□1404-5 | 160             | 190                        | 200               |
| 16       | 4        | 2       | W□1405-2 | 160             | 190                        | 200               |
|          |          | 3       | W□1405-3 | 160             | 190                        | 200               |
|          | 5        | 5       | W□1405-5 | 160             | 190                        | 200               |
|          |          | 2       | W□1406-2 | 160             | 190                        | 200               |
|          | 6        | 3       | W□1406-3 | 160             | 190                        | 200               |
|          |          | 5       | W□1406-5 | 160             | 190                        | 200               |
|          | 7        | 2       | W□1408-2 | 160             | 190                        | 200               |
|          |          | 3       | W□1408-3 | 160             | 190                        | 200               |
|          | 8        | 5       | W□1408-5 | 160             | 190                        | 200               |
|          |          |         |          |                 |                            |                   |
|          |          |         |          |                 |                            |                   |
|          |          |         |          |                 |                            |                   |

| 外径<br>φD | 内径<br>φd | 板厚<br>t | 1 枚単位    |            |                       |              |
|----------|----------|---------|----------|------------|-----------------------|--------------|
|          |          |         | 品番       | 価格(円)      |                       |              |
|          |          |         | □ : 材質記号 | 黒染め<br>[C] | 無電解<br>ニッケルメッキ<br>[M] | ステンレス<br>[S] |
| 14       | 10       | 2       | W□1410-2 | 160        | 190                   | 200          |
|          |          | 3       | W□1410-3 | 160        | 190                   | 200          |
|          |          | 5       | W□1410-5 | 160        | 190                   | 200          |
| 15       | 3        | 1       | W□1503-1 | 180        | 200                   | 210          |
|          |          | 2       | W□1503-2 | 180        | 200                   | 210          |
|          | 4        | 1       | W□1504-1 | 180        | 200                   | 210          |
|          |          | 2       | W□1504-2 | 180        | 200                   | 210          |
|          |          | 3       | W□1504-3 | 180        | 200                   | 210          |
|          |          | 5       | W□1504-5 | 180        | 200                   | 210          |
|          | 5        | 1       | W□1505-1 | 180        | 200                   | 210          |
|          |          | 2       | W□1505-2 | 180        | 200                   | 210          |
|          |          | 3       | W□1505-3 | 180        | 200                   | 210          |
|          |          | 5       | W□1505-5 | 180        | 200                   | 210          |
|          | 6        | 1       | W□1506-1 | 180        | 200                   | 210          |
|          |          | 2       | W□1506-2 | 180        | 200                   | 210          |
|          |          | 3       | W□1506-3 | 180        | 200                   | 210          |
|          |          | 5       | W□1506-5 | 180        | 200                   | 210          |
|          | 8        | 2       | W□1508-2 | 180        | 200                   | 210          |
|          |          | 3       | W□1508-3 | 180        | 200                   | 210          |
|          |          | 5       | W□1508-5 | 180        | 200                   | 210          |
| 16       | 10       | 2       | W□1510-2 | 180        | 200                   | 210          |
|          |          | 3       | W□1510-3 | 180        | 200                   | 210          |
|          |          | 5       | W□1510-5 | 180        | 200                   | 210          |
|          | 4        | 1       | W□1604-1 | 180        | 200                   | 210          |
|          |          | 2       | W□1604-2 | 180        | 200                   | 210          |
|          |          | 3       | W□1604-3 | 180        | 200                   | 210          |
|          |          | 5       | W□1604-5 | 180        | 200                   | 210          |
|          | 5        | 1       | W□1605-1 | 180        | 200                   | 210          |
|          |          | 2       | W□1605-2 | 180        | 200                   | 210          |
|          |          | 3       | W□1605-3 | 180        | 200                   | 210          |
|          |          | 5       | W□1605-5 | 180        | 200                   | 210          |
|          | 6        | 1       | W□1606-1 | 180        | 200                   | 210          |
|          |          | 2       | W□1606-2 | 180        | 200                   | 210          |
|          |          | 3       | W□1606-3 | 180        | 200                   | 210          |
|          |          | 5       | W□1606-5 | 180        | 200                   | 210          |
|          | 8        | 2       | W□1608-2 | 180        | 200                   | 210          |
|          |          | 3       | W□1608-3 | 180        | 200                   | 210          |
|          |          | 5       | W□1608-5 | 180        | 200                   | 210          |
| 18       | 10       | 2       | W□1610-2 | 180        | 200                   | 210          |
|          |          | 3       | W□1610-3 | 180        | 200                   | 210          |
|          |          | 5       | W□1610-5 | 180        | 200                   | 210          |
|          | 12       | 2       | W□1612-2 | 180        | 200                   | 210          |
|          |          | 3       | W□1612-3 | 180        | 200                   | 210          |
|          |          | 5       | W□1612-5 | 180        | 200                   | 210          |
|          | 4        | 1       | W□1804-1 | 200        | 210                   | 260          |
|          |          | 2       | W□1804-2 | 200        | 210                   | 260          |
|          |          | 3       | W□1804-3 | 200        | 210                   | 260          |
|          |          | 5       | W□1804-5 | 200        | 210                   | 260          |
|          | 5        | 1       | W□1805-1 | 200        | 210                   | 260          |
|          |          | 2       | W□1805-2 | 200        | 210                   | 260          |
|          |          | 3       | W□1805-3 | 200        | 210                   | 260          |
|          |          | 5       | W□1805-5 | 200        | 210                   | 260          |

| 外径<br>φD | 内径<br>φd | 板厚<br>t | 1 枚単位    |            |                       |              |
|----------|----------|---------|----------|------------|-----------------------|--------------|
|          |          |         | 品番       | 価格(円)      |                       |              |
|          |          |         | □ : 材質記号 | 黒染め<br>[C] | 無電解<br>ニッケルメッキ<br>[M] | ステンレス<br>[S] |
| 18       | 6        | 1       | W□1806-1 | 200        | 210                   | 260          |
|          |          | 2       | W□1806-2 | 200        | 210                   | 260          |
|          |          | 3       | W□1806-3 | 200        | 210                   | 260          |
|          | 8        | 2       | W□1808-2 | 200        | 210                   | 260          |
|          |          | 3       | W□1808-3 | 200        | 210                   | 260          |
|          |          | 5       | W□1808-5 | 200        | 210                   | 260          |
|          | 10       | 2       | W□1810-2 | 200        | 210                   | 260          |
|          |          | 3       | W□1810-3 | 200        | 210                   | 260          |
|          |          | 5       | W□1810-5 | 200        | 210                   | 260          |
|          | 12       | 2       | W□1812-2 | 200        | 210                   | 260          |
|          |          | 3       | W□1812-3 | 200        | 210                   | 260          |
|          |          | 5       | W□1812-5 | 200        | 210                   | 260          |
|          | 4        | 2       | W□2004-2 | 200        | 210                   | 260          |
|          |          | 3       | W□2004-3 | 200        | 210                   | 260          |
|          |          | 5       | W□2004-5 | 200        | 210                   | 260          |
| 20       | 5        | 1       | W□2005-1 | 200        | 210                   | 260          |
|          |          | 2       | W□2005-2 | 200        | 210                   | 260          |
|          |          | 3       | W□2005-3 | 200        | 210                   | 260          |
|          |          | 5       | W□2005-5 | 200        | 210                   | 260          |
|          | 6        | 1       | W□2006-1 | 200        | 210                   | 260          |
|          |          | 2       | W□2006-2 | 200        | 210                   | 260          |
|          |          | 3       | W□2006-3 | 200        | 210                   | 260          |
|          |          | 5       | W□2006-5 | 200        | 210                   | 260          |
|          | 8        | 2       | W□2008-2 | 200        | 210                   | 260          |
|          |          | 3       | W□2008-3 | 200        | 210                   | 260          |
|          |          | 5       | W□2008-5 | 200        | 210                   | 260          |
|          | 10       | 2       | W□2010-2 | 200        | 210                   | 260          |
|          |          | 3       | W□2010-3 | 200        | 210                   | 260          |
|          |          | 5       | W□2010-5 | 200        | 210                   | 260          |
| 25       | 12       | 2       | W□2012-2 | 200        | 210                   | 260          |
|          |          | 3       | W□2012-3 | 200        | 210                   | 260          |
|          |          | 5       | W□2012-5 | 200        | 210                   | 260          |
|          | 16       | 2       | W□2016-2 | 200        | 210                   | 260          |
|          |          | 3       | W□2016-3 | 200        | 210                   | 260          |
|          |          | 5       | W□2016-5 | 200        | 210                   | 260          |
|          | 4        | 2       | W□2504-2 | 200        | 230                   | 270          |
|          |          | 3       | W□2504-3 | 200        | 230                   | 270          |
|          |          | 5       | W□2504-5 | 200        | 230                   | 270          |
|          | 5        | 2       | W□2505-2 | 200        | 230                   | 270          |
|          |          | 3       | W□2505-3 | 200        | 230                   | 270          |
|          |          | 5       | W□2505-5 | 200        | 230                   | 270          |
|          | 6        | 1       | W□2506-1 | 200        | 230                   | 270          |
|          |          | 2       | W□2506-2 | 200        | 230                   | 270          |
|          |          | 3       | W□2506-3 | 200        | 230                   | 270          |
|          |          | 5       | W□2506-5 | 200        | 230                   | 270          |
|          | 8        | 2       | W□2508-2 | 200        | 230                   | 270          |
|          |          | 3       | W□2508-3 | 200        | 230                   | 270          |
|          |          | 5       | W□2508-5 | 200        | 230                   | 270          |
| 10       | 10       | 2       | W□2510-2 | 200        | 230                   | 270          |
|          |          | 3       | W□2510-3 | 200        | 230                   | 270          |
|          |          | 5       | W□2510-5 | 200        | 230                   | 270          |

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| 外径<br>φD | 内径<br>φd | 板厚<br>t | 1 枚単位    |            |                       |              |
|----------|----------|---------|----------|------------|-----------------------|--------------|
|          |          |         | 品番       | 価格(円)      |                       |              |
|          |          |         | □ : 材質記号 | 黒染め<br>[C] | 無電解<br>ニッケルメッキ<br>[M] | ステンレス<br>[S] |
| 25       | 12       | 2       | W□2512-2 | 200        | 230                   | 270          |
|          |          | 3       | W□2512-3 | 200        | 230                   | 270          |
|          |          | 5       | W□2512-5 | 200        | 230                   | 270          |
|          | 16       | 2       | W□2516-2 | 200        | 230                   | 270          |
|          |          | 3       | W□2516-3 | 200        | 230                   | 270          |
|          |          | 5       | W□2516-5 | 200        | 230                   | 270          |
|          | 20       | 2       | W□2520-2 | 200        | 230                   | 270          |
|          |          | 3       | W□2520-3 | 200        | 230                   | 270          |
|          |          | 5       | W□2520-5 | 200        | 230                   | 270          |
| 30       | 6        | 2       | W□3006-2 | 200        | 280                   | 310          |
|          |          | 3       | W□3006-3 | 200        | 280                   | 310          |
|          |          | 5       | W□3006-5 | 200        | 280                   | 310          |
|          | 8        | 2       | W□3008-2 | 200        | 280                   | 310          |
|          |          | 3       | W□3008-3 | 200        | 280                   | 310          |
|          |          | 5       | W□3008-5 | 200        | 280                   | 310          |
|          | 10       | 2       | W□3010-2 | 200        | 280                   | 310          |
|          |          | 3       | W□3010-3 | 200        | 280                   | 310          |
|          |          | 5       | W□3010-5 | 200        | 280                   | 310          |
|          | 12       | 2       | W□3012-2 | 200        | 280                   | 310          |
|          |          | 3       | W□3012-3 | 200        | 280                   | 310          |
|          |          | 5       | W□3012-5 | 200        | 280                   | 310          |
|          | 16       | 2       | W□3016-2 | 200        | 280                   | 310          |
|          |          | 3       | W□3016-3 | 200        | 280                   | 310          |
|          |          | 5       | W□3016-5 | 200        | 280                   | 310          |
|          | 20       | 2       | W□3020-2 | 200        | 280                   | 310          |
|          |          | 3       | W□3020-3 | 200        | 280                   | 310          |
|          |          | 5       | W□3020-5 | 200        | 280                   | 310          |
| 35       | 10       | 3       | W□3510-3 | 200        | 320                   | 340          |
|          |          | 5       | W□3510-5 | 200        | 320                   | 340          |
|          | 12       | 3       | W□3512-3 | 200        | 320                   | 340          |
|          |          | 5       | W□3512-5 | 200        | 320                   | 340          |
|          | 16       | 3       | W□3516-3 | 200        | 320                   | 340          |
|          |          | 5       | W□3516-5 | 200        | 320                   | 340          |
|          | 20       | 3       | W□3520-3 | 200        | 320                   | 340          |
|          |          | 5       | W□3520-5 | 200        | 320                   | 340          |
| 40       | 10       | 3       | W□4010-3 | 230        | 390                   | 420          |
|          |          | 5       | W□4010-5 | 230        | 390                   | 420          |
|          | 12       | 3       | W□4012-3 | 230        | 390                   | 420          |
|          |          | 5       | W□4012-5 | 230        | 390                   | 420          |
|          | 16       | 3       | W□4016-3 | 230        | 390                   | 420          |
|          |          | 5       | W□4016-5 | 230        | 390                   | 420          |
|          | 20       | 3       | W□4020-3 | 230        | 390                   | 420          |
|          |          | 5       | W□4020-5 | 230        | 390                   | 420          |
| 50       | 10       | 3       | W□5010-3 | 310        | 450                   | 510          |
|          |          | 5       | W□5010-5 | 310        | 450                   | 510          |
|          | 12       | 3       | W□5012-3 | 310        | 450                   | 510          |
|          |          | 5       | W□5012-5 | 310        | 450                   | 510          |
|          | 16       | 3       | W□5016-3 | 310        | 450                   | 510          |
|          |          | 5       | W□5016-5 | 310        | 450                   | 510          |
|          | 20       | 3       | W□5020-3 | 310        | 450                   | 510          |
|          |          | 5       | W□5020-5 | 310        | 450                   | 510          |