

# Round Stoppers / Shims for Round Stoppers Standard Type

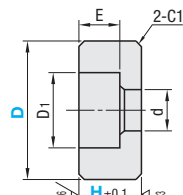
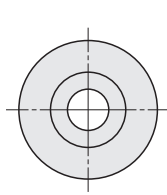
## Counterbored Holes, Tapped Holes

■ **Features:** Use at stop point of equipments and workpieces. Selectable from Standard/Free Type according to the applications.



Standard  
Configurable

AST  
ASTNF



25 / ( 6.3 / 1.6 )

Material: S45C Equivalent  
Hardness: 40~45HRC

| Part Number |     | D  |    | H   |  | d    |  | D <sub>1</sub> |  | E   |  | Applicable Screw |  | Unit Price |  | Volume Discount Rate |  |
|-------------|-----|----|----|-----|--|------|--|----------------|--|-----|--|------------------|--|------------|--|----------------------|--|
| Type        | No. |    |    |     |  |      |  |                |  |     |  |                  |  |            |  |                      |  |
| AST         | 3   | 12 | 8  | 3.4 |  | 6.5  |  | 3.5            |  | M 3 |  |                  |  |            |  |                      |  |
|             | 4   | 16 |    | 4.4 |  | 8    |  | 4.5            |  | M 4 |  |                  |  |            |  |                      |  |
|             | 5   | 19 | 10 | 5.4 |  | 9.5  |  | 5.5            |  | M 5 |  |                  |  |            |  |                      |  |
|             | 6   | 20 |    | 6.6 |  | 11   |  | 6.5            |  | M 6 |  |                  |  |            |  |                      |  |
|             | 8   | 25 | 15 | 9   |  | 14   |  | 8.6            |  | M 8 |  |                  |  |            |  |                      |  |
|             | 10  | 28 | 16 | 11  |  | 17.5 |  | 11             |  | M10 |  |                  |  |            |  |                      |  |
|             | 12  | 30 | 18 | 14  |  | 20   |  | 13.5           |  | M12 |  |                  |  |            |  |                      |  |

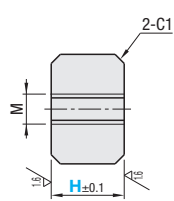
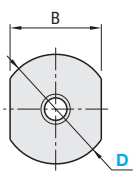
For orders of 100 or more pieces, please request a quotation.

| Configurable |     |               |  |                 |  |     |  |                |      |                  |  |            |  |
|--------------|-----|---------------|--|-----------------|--|-----|--|----------------|------|------------------|--|------------|--|
| Part Number  |     | D             |  | H               |  | d   |  | D <sub>1</sub> | E    | Applicable Screw |  | Unit Price |  |
| Type         | No. | 1mm Increment |  | 1mm Increment   |  |     |  |                |      |                  |  |            |  |
| ASTNF        | 3   | 10~15         |  | 5~30<br>(H≥E+1) |  | 3.4 |  | 6.5            | 3.5  | M 3              |  |            |  |
|              | 4   | 10~25         |  |                 |  | 4.4 |  | 8              | 4.5  | M 4              |  |            |  |
|              | 5   | 12~35         |  |                 |  | 5.4 |  | 9.5            | 5.5  | M 5              |  |            |  |
|              | 6   | 15~40         |  |                 |  | 6.6 |  | 11             | 6.5  | M 6              |  |            |  |
|              | 8   | 16~50         |  |                 |  | 9   |  | 14             | 8.6  | M 8              |  |            |  |
|              | 10  | 22~50         |  |                 |  | 11  |  | 17.5           | 11   | M10              |  |            |  |
|              | 12  | 24~50         |  |                 |  | 14  |  | 20             | 13.5 | M12              |  |            |  |



Standard  
Configurable

ASTM  
ASTMF



25 / ( 1.6 )

Material: S45C Equivalent  
Hardness: 40~45HRC

| Part Number |     | D  |    | H   |  | M        |  | B |  | Unit Price |  | Volume Discount Rate |  |
|-------------|-----|----|----|-----|--|----------|--|---|--|------------|--|----------------------|--|
| Type        | No. |    |    |     |  | (Coarse) |  |   |  |            |  |                      |  |
| ASTM        | 3   | 12 | 8  | M3  |  | 10       |  |   |  |            |  |                      |  |
|             | 4   | 16 |    | M4  |  | 14       |  |   |  |            |  |                      |  |
|             | 5   | 19 | 10 | M5  |  | 17       |  |   |  |            |  |                      |  |
|             | 6   | 20 |    | M6  |  |          |  |   |  |            |  |                      |  |
|             | 8   | 25 | 15 | M8  |  | 22       |  |   |  |            |  |                      |  |
|             | 10  | 28 | 16 | M10 |  | 24       |  |   |  |            |  |                      |  |
|             | 12  | 30 | 18 | M12 |  | 27       |  |   |  |            |  |                      |  |

For orders of 100 or more pieces, please request a quotation.

| Configurable |     |               |  |                 |  |          |     |            |
|--------------|-----|---------------|--|-----------------|--|----------|-----|------------|
| Part Number  |     | D             |  | H               |  | M        | B   | Unit Price |
| Type         | No. | 1mm Increment |  | 1mm Increment   |  | (Coarse) |     |            |
| ASTMF        | 3   | 10~15         |  | 5~30<br>(H≤Mx4) |  | M3       | D-2 |            |
|              | 4   | 10~25         |  |                 |  | M4       |     |            |
|              | 5   | 12~35         |  |                 |  | M5       |     |            |
|              | 6   | 15~40         |  |                 |  | M6       |     |            |
|              | 8   | 16~50         |  |                 |  | M8       |     |            |
|              | 10  | 22~50         |  |                 |  | M10      |     |            |
|              | 12  | 24~50         |  |                 |  | 6~30     |     | M12        |



Ordering Example

Part Number - D - H  
AST8 - 12 - 10 (Counterbored Standard Type)  
ASTNF3 - 12 - 10 (Counterbored Configurable Type)  
ASTM6 - 12 - 15 (Tapped Hole Standard Type)  
ASTMF5 - 12 - 15 (Tapped Hole Configurable Type)



Alterations

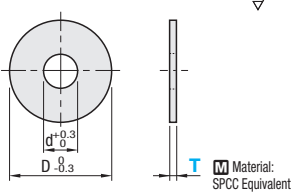
Part Number - D - H - (ZG)  
ASTNF4 - 12 - 10 - ZG

| Alterations |  | Counterbored Hole Depth |      |
|-------------|--|-------------------------|------|
| Code        |  | ZG                      |      |
| Spec.       |  | Applicable Screw        | E    |
|             |  | M3                      | -    |
|             |  | M4                      | 5.6  |
|             |  | M5                      | 6.7  |
|             |  | M6                      | 8.0  |
|             |  | M8                      | 10.6 |
|             |  | M10                     | 13.2 |
|             |  | M12                     | 15.5 |

Applicable to ASTNF only  
Not applicable to M3



ASTC



Material: SPCC Equivalent

| Part Number |     | T Selection            |  | d  |  | D  |  | Unit Price |  | Volume Discount Rate |  |
|-------------|-----|------------------------|--|----|--|----|--|------------|--|----------------------|--|
| Type        | No. |                        |  |    |  |    |  |            |  |                      |  |
| ASTC        | 3   | 0.1<br>0.2<br>0.5<br>1 |  | 4  |  | 12 |  |            |  |                      |  |
|             | 4   |                        |  | 5  |  | 16 |  |            |  |                      |  |
|             | 5   |                        |  | 6  |  | 19 |  |            |  |                      |  |
|             | 6   |                        |  | 8  |  | 20 |  |            |  |                      |  |
|             | 8   |                        |  | 10 |  | 25 |  |            |  |                      |  |
|             | 10  |                        |  | 12 |  | 28 |  |            |  |                      |  |
|             | 12  |                        |  | 14 |  | 30 |  |            |  |                      |  |

For orders larger than indicated quantity, please request a quotation.



Ordering Example

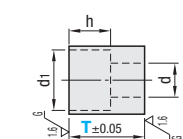
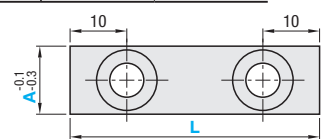
Part Number - T  
ASTC3 - 0.1

# Flat Stoppers / Shims for Flat Stoppers Standard Type



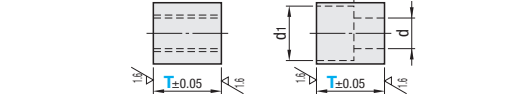
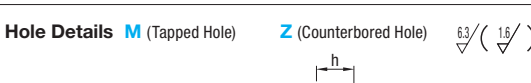
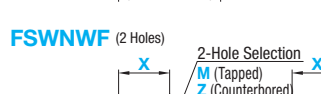
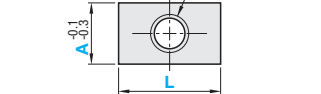
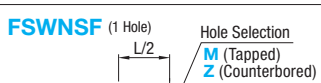
| Type            |  | Material          |  | Hardness        |  |
|-----------------|--|-------------------|--|-----------------|--|
| T, L Selectable |  | T, L Configurable |  |                 |  |
| FSWN            |  | FSWNF             |  | S45C Equivalent |  |
| FSWJ            |  | FSWJF             |  | Polyacetal      |  |

6.3 / ( 1.6 )  
1/8 for 1/8 area of FSWJ, FSWJF and FSWNF.



| Part Number  |    | T Selection |           | L Selection |  | Unit Price |  |
|--------------|----|-------------|-----------|-------------|--|------------|--|
| Type         | A  |             |           |             |  |            |  |
| FSWN<br>FSWJ | 12 | 12 15 20    | 50 75 100 | 4.5         |  | 8          |  |
|              | 15 |             |           | 5.5         |  | 9.5        |  |
|              | 16 |             |           | 6.6         |  | 11         |  |
|              | 19 |             |           |             |  |            |  |
|              | 25 |             |           |             |  |            |  |
|              |    |             |           |             |  |            |  |

| Part Number    |    | T Selection |        | L Selection |  | Unit Price |  |
|----------------|----|-------------|--------|-------------|--|------------|--|
| Type           | A  |             |        |             |  |            |  |
| FSWNF<br>FSWJF | 12 | 10~20       | 35~100 | 4.5         |  | 8          |  |
|                | 15 |             |        | 5.5         |  | 9.5        |  |
|                | 16 |             |        | 6.6         |  | 11         |  |
|                | 19 |             |        |             |  |            |  |
|                | 25 |             |        |             |  |            |  |
|                |    |             |        |             |  |            |  |



| Counterbore Dimensions |  | d   |  | d <sub>1</sub> |  | h |  |
|------------------------|--|-----|--|----------------|--|---|--|
| Z4                     |  | 4.5 |  | 8              |  | 5 |  |
| Z5                     |  | 5.5 |  | 9.5            |  | 6 |  |
| Z6                     |  | 6.6 |  | 11             |  | 7 |  |

Material: S45C Equivalent  
Hardness: 40~45HRC

| Part Number |
|-------------|
|-------------|