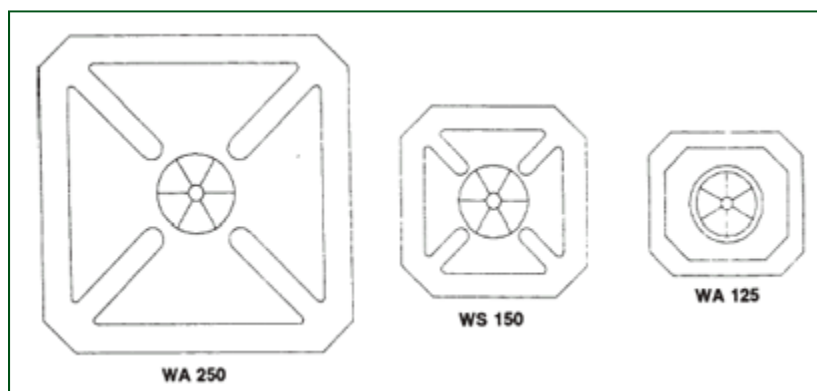


## SELF-LOCKING WASHERS (Square)

The MIDWEST FASTENERS square self-locking washer, or speed clip, is made in Mild Steel, Standard Stainless, and Aluminum popularly. In several rectangular and square sizes, this insulation washer mounts on various insulation fasteners for capturing and holding insulation material in place. The gauge of the pin, or diameter, should match the fastener to be affixed, or "locked", onto. Popular diameters are 14 gauge, 12 gauge and 10 gauge--- while overall, a wide variety of whole sizes are available in both standard and metric self-locking hole sizes.



Type :	WA250	WS 150	WA125
Diameter	2-1/2x2-1/2	1-1/2x 1-1/2	1-1 /4.x 1-1/8
Thickness	.015 nom.	.015 nom.	.015 nom.
Material	Mild Steel	Mild Steel	Mild Steel
Plating	Galv.	Galv.	Galv.
Edges/flat or beveled	beveled	beveled	beveled
Other materials available	Alum., S.S.	Alum., S.S.	Alum., S.S.
Packaged per carton	1000	1000	1000

**MIDWEST FASTENERS** Self-Locking Washers are used in conjunction with MIDWEST FASTENERS weld pins, insul-anchors and lacing anchors to fasten insulation in place. Simply press the self-locking washer onto the pin up to the insulation until the desired position is reached. Then clip off, (or bend over) the remaining portion of pin for a permanent attachment.

Both Round or Square self-locking washers are available as a matter of design or application preference. The domed, multi-lanced hole design provides for ease of locating washer on pin and positive locking. Most styles of washers are manufactured with a beveled edge to prevent the washer from cutting into the insulation facing,

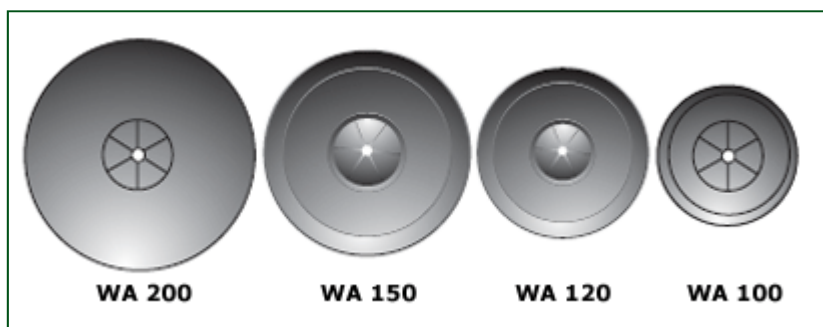
**MIDWEST FASTENERS** Self-Locking Washers are available according to the chart above and with standard 10GA, 12GA or 14GA hole sizes off-the-shelf. Other material plating combinations and hole sizes are available by special order.

### TO ORDER OR SPECIFY, GIVE :

1. Product code .....WA, WS
2. Material .....MS, SS, AL
3. Type .....250, 150, 125
4. Diameter of pin/stud on which washer is to be used

## SELF-LOCKING WASHERS (Round)

The MIDWEST FASTENERS round self-locking washer, or speed clip, is made primarily in Mild Steel, with Standard Stainless and Aluminum sizes available. In several variations of round sizes, this insulation washer mounts on many types of insulation fasteners for capturing and holding insulation material in place. The gauge of the pin, or diameter, should match the fastener to be affixed, or "locked", onto. Popular diameters are 14 gauge, 12 gauge and 10 gauge---while overall, a wide variety of whole sizes are available in both standard and metric self-locking hole sizes which can range from 1/8" to 1/2".



Type :	WA 200	WA 150	WA 120	WA 100
Diameter	2"	1-1/2"	1-3/16"	1"
Thickness	.015 nom.	.015 nom.	.015 nom.	.015 nom.
Material	Mild Steel	Mild Steel	Mild Steel	Mild Steel
Plating	Galv.	Galv.	Galv.	Galv.
Edges/flat or beveled	flat	beveled	beveled	flat
Other materials available	Alum. S.S.	Alum. S.S.	Alum. S.S.	Alum. S.S.
Packaged per carton	1000	1000	1000	1000

**MIDWEST FASTENERS** Self-Locking Washers are used in conjunction with MIDWEST FASTENERS weld pins, insul-anchors and lacing anchors to fasten insulation in place. Simply press the self-locking washer onto the pin up to the insulation until the desired position is reached. Then clip off, (or bend over) the remaining portion of pin for a permanent attachment.

Both Round or Square self-locking washers are available as a matter of design or application preference. The domed, multi-lanced hole design provides for ease of locating washer on pin and positive locking. Washers are manufactured with a beveled edge to prevent the washer from cutting into the insulation facing.

**MIDWEST FASTENERS** Self-Locking Washers are available according to the chart above and with standard 10 GA, 12 GA, or 14 GA hole sizes off-the-shelf. Other material/plating combinations and hole sizes are available by special order.

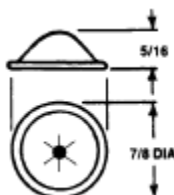
### TO ORDER OR SPECIFY, GIVE :

1. Product code .....WA
2. Material .....MS,SS,AL
3. Type .....100, 120, 150, or 200
4. Diameter of pin/stud on which washer is to be used.....

## MISCELLANEOUS INSULATION WASHERS

The "capped speed washer", or dome cap, provided by MIDWEST Fasteners is a two element self-locking washer. This type of insulation washer consists of a spring clip retaining washer covered by an outer "cap". This type insulation cap is has become popular in insulation applications where cosmetics and/or personnel protection have importance. Available to mate and hold on various weld pins and insulation anchors, the capped washer is usually made in 14 gauge, 12gauge and 10 gauge hole sizes. Finishes often match insulation materials in use, with bright aluminum popular; but various color choices also are presented with white finish in stock, and other colors available.

### PCW



### CAPPED SPEED WASHER

#### APPLICATION :

Designed to permanently lock on to weld pins or insul-anchors where appearance is a major factor, or where no sharp points or edges are permissible on the surface.

#### MATERIAL:

Decorative Domed Cap-Aluminum Self-Locking Insert-hardened Steel

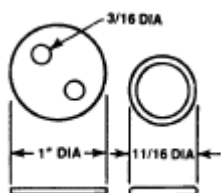
#### COLOR :

Plain (bright aluminum) or painted white. Other painted colors are available by special order.

#### TO ORDER OR SPECIFY,GIVE:

- 1.Product Code:.....PCW
- 2.Size.....10 GA,12 GA or 14 GA
- 3.Color.....

### L2H LRZA



### LACING WASHER & RING

#### APPLICATION :

Designed to be used with lacing wire to wrap insulation around irregular shapes.

#### MATERIAL:

Washer - Aluminum or Stainless Steel  
Ring - zinc alloy, bright zinc plated.

#### NO-A B :

Washers are available stamped  
"NO AB" to indicate non - asbestos material.

#### TO ORDER OR SPECIFY,GIVE:

##### Lacing washer

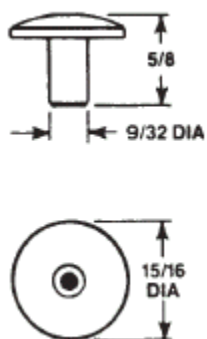
- 1.Product Code :.....L2H
- 2.Material :.....

##### Lacing Ring

- 1.Product Code :.....LRZA
- 2.Material :.....Zinc Alloy

## NAVY STUDS - WASHERS, CAPS & NUTS

### MCAL



#### ANNULAR RING CAPS (For annular ring studs)

##### APPLICATION:

Designed to lock on to annular ring Navy, studs.

##### MATERIAL:

Aluminum

Optional: Mild Steel and Stainless Steel

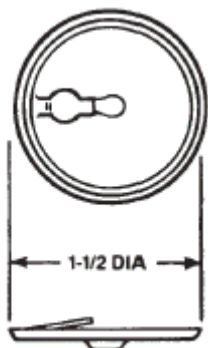
##### SIZE:

For 3/16" dia. studs.

##### TO ORDER OR SPECIFY, GIVE:

- 1.Product Code.....MC
- 2.Material.....AL, MS, SS
- 3.Size.....

### WAK



#### KEY HOLE SLOTTED WASHER (For or 3/16 dia. notched end studs)

##### APPLICATION :

Designed to lock on to Navy notched end studs.

##### MATERIAL:

Mild Steel - Galvanized.

##### TO ORDER OR SPECIFY, GIVE:

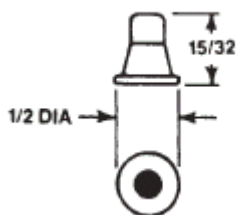
- 1.Product Code.....WAK
- 2.Material.....

### FLAT WASHERS & HEX NUTS (For all threaded studs)

These "accessory" items can be ordered with Threaded Weld Studs for general application and to meet military specifications where required.

## PANEL CAPS & NUTS

### WAG AL



#### ANNULAR GROOVE CAP (For annular groove shoulder studs)

##### APPLICATION :

Designed to permanently lock on to annular groove shoulder studs to hold panel in place against stud shoulder.

##### MATERIAL:

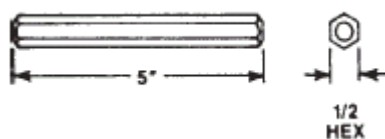
Aluminum

##### SIZE :

For 3/16" diameter annular groove.

##### TO ORDER OR SPECIFY, GIVE:

1. Product Code.....WAG AL



#### CAP SETTING TOOL (For installing WAG AL caps)

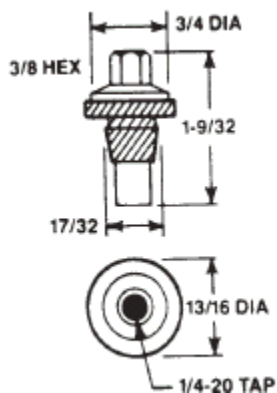
##### APPLICATION :

This tool is recommended for installing the Annular Groove Cap (above)

##### TO ORDER OR SPECIFY, GIVE:

1. Name :.....Cap setting tool

### PNAL



#### PANEL NUT (For 1/4-20 threaded studs)

##### APPLICATION :

Designed to be threaded down through pre-drilled holes in the panel on to pre-welded studs providing firm, water resistant attachment.

##### MATERIAL:

Aluminum & Neoprene Rubber.

##### SIZE :

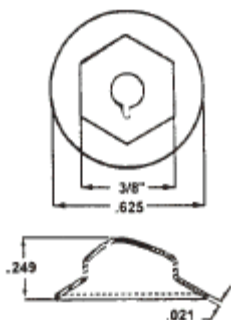
For 1/4-20 threaded studs.

##### TO ORDER OR SPECIFY, GIVE:

1. Product Code :.....PNAL

## COMBINATION NUTS

### PAL - NUT



#### COMBINATION HEX - NUT and LOCKWASHER ('OPEN') (For 10-24 threaded studs)

**APPLICATION :** with 10-24 weld studs.  
One piece washer-type locknut combination serving as hex nut, lockwasher and flat washer. Locking design eliminates back-off due to vibration and thermal stress.

#### MATERIAL:

Mild Steel. Zinc Plated.

#### SIZE :

For 10-24 threaded studs

#### TO ORDER OR SPECIFY,GIVE:

- 1.Product Code.....PAL-NUT
- 2.Part Number .....D010241

### HEX CAP NUT



#### COMBINATION HEX - NUT and LOCKWASHER ('CLOSED') (For 10-24 threaded studs)

**APPLICATION :** with 10-24 weld studs.  
One piece washer-type locknut combination serving as hex nut, lockwasher and flat washer design encloses fastener when placed on stud.

#### MATERIAL:

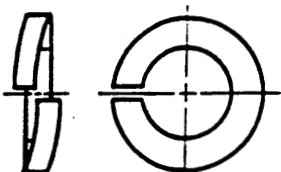
Mild Steel. Nickel Plated.

#### SIZE :

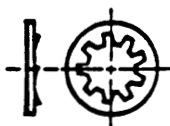
For 10-24 threaded studs

#### TO ORDER OR SPECIFY,GIVE:

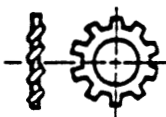
- 1.Product Code.....CAP-NUT
- 2.Part Number .....KD102410

**WASHERS, CAPS & NUTS****STANDARD LOCK WASHERS****SPLIT LOCK WASHER****WCN SPLIT**

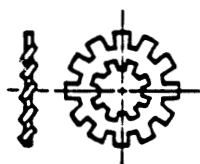
SIZES									
#6	#8	#10	1/4	5/16	3/8	7/16	1/2	5/8	3/4

**INTERNAL TOOTH LOCK WASHER****WCN INT**

SIZES					
#6	#8	#10	1/4	5/16	3/8

**EXTERNAL TOOTH LOCK WASHER****WCN EXT**

SIZES					
#6	#8	#10	1/4	5/16	3/8

**INTERNAL/EXTERNAL TOOTH LOCK WASHER****WCN INTTEXT**

SIZES					
#6	#8	#10	1/4	5/16	3/8

**TYPE & SIZE:** Types and sizes shown are standard. Many other types and sizes are available by special order. All dimensions shown are  $\pm 1/64"$ .

**MATERIAL:** HEX NUTS and FLAT WASHERS are available in mild steel (unplated or zinc plated), stainless steel, aluminum and brass. LOCK WASHERS are available in mild steel (unplated or zinc plated) and stainless steel. Other materials are available by special order.

**TO ORDER OR SPECIFY GIVE:**

1. Product Code . . . . . WCN\_\_\_\_\_
2. Size . . . . .
3. Material . . . . .

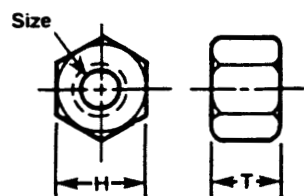
**EXAMPLE:**

WCN INT/EXT 1/4" MS-ZINC

# WASHERS, CAPS & NUTS

## STANDARD HEX NUTS & FLAT WASHERS (See page 3-8 for ordering info.)

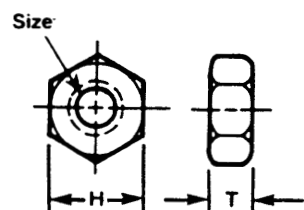
### HEX NUTS (American Standard)

**WCN HEX**


SIZE	H	T
# 6	5/16	7/64
# 8	11/32	1/8
#10	3/8	1/8
1/4	7/16	7/32
5/16	1/2	17/64

SIZE	H	T
3/8	9/16	21/64
7/16	11/16	3/8
1/2	3/4	7/16
5/8	15/16	35/64
3/4	1-1/8	41/64

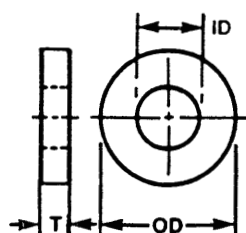
### HEX JAM NUTS (American Standard)

**WCN HEXJAM**


SIZE	H	T
1/4	7/16	5/32
5/16	1/2	3/16
3/8	9/16	7/32
7/16	11/16	1/4

SIZE	H	T
1/2	3/4	5/16
5/8	15/16	3/8
3/4	1-1/8	27/64

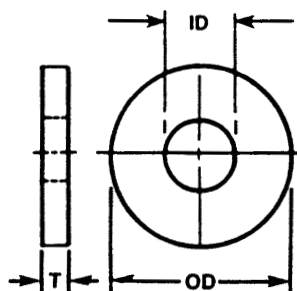
### FLAT WASHERS (American Standard — Type A, Series W)

**WCN FLAT**


SIZE	ID	OD	T
# 6	5/32	3/8	3/64
# 8	3/16	7/16	3/64
#10	7/32	1/2	3/64
1/4	5/16	47/64	1/16
5/16	3/8	7/8	5/64

SIZE	ID	OD	T
3/8	7/16	1"	5/64
7/16	1/2	1-1/4	5/64
1/2	9/16	1-3/8	7/64
5/8	11/16	1-3/4	9/64
3/4	13/16	2"	5/32

### LARGE OD FLAT WASHERS (American Standard — Type B, Series W)

**WCN LODFLT**


SIZE	ID	OD	T
1/4	9/32	1"	1/16
5/16	11/32	1-1/8	1/16
3/8	13/32	1-1/4	3/32
7/16	15/32	1-15/32	3/32

SIZE	ID	OD	T
1/2	17/32	1-3/4	3/32
5/8	21/32	2-1/4	5/32
3/4	13/16	2-1/2	5/32