



ATOM FASTENERS LTD

PHONE (09) 272 8664 FAX (09) 272 8694

WASHERS ROUND

PAGE



LIGHT

STEEL
STEEL
BRASS
STAINLESS STEEL A2
STAINLESS STEEL A4

Zinc Plated
Zinc Plated Yellow Pass.

Washers 1
Washers 1
Washers 1
Washers 1
Washers 1



HEAVY

STEEL
STEEL
STEEL

Black
Zinc Plated
Hot Dipped Galvanised

Washers 3
Washers 3
Washers 3



DIN METRIC

DIN 125-1A STEEL
DIN 125-1A STEEL
DIN 125-1A ALUMINIUM
DIN 125-1A PLASTIC
DIN 125-1A STAINLESS STEEL A2
DIN 125-1A STAINLESS STEEL A4

Black
Zinc Plated

Washers 1
Washers 1
Washers 1
Washers 1
Washers 1
Washers 1



HARDENED

DIN 125-1A STEEL
DIN 125-1A STEEL
IMPERIAL SAE-F436
IMPERIAL SAE-F436

Black
Zinc Plated
Zinc Plated
Zinc Plated Yellow Pass

Washers 16
Washers 16
Washers 16
Washers 16



HIGH-STRENGTH STRUCTURAL

AS 1252-1983 (For Class 8.8)
DIN 6916 (For Class 10.9)
DIN 6916 (For Class 10.9)

Hot Dipped Galvanised
Black
Hot Dipped Galvanised

Washers 13
Washers 13
Washers 13



FENDER (Large,medium,small)

STEEL
STAINLESS STEEL A2
STAINLESS STEEL A4

Zinc Plated

Washers 17
Washers 17
Washers 17



ROUND EXTRA LARGE

DIN 9021 STEEL
DIN 9021 STEEL
STAINLESS STEEL A2

Black
Zinc Plated

Washers 3
Washers 3
Washers 3

CONTINUED

SPRING

PAGE



SPRING LOCK WASHERS (Single Coil)

| | | |
|----------------------------------|--------------------------|-----------|
| DIN 127B & Imperial SPRING STEEL | Black | Washers 4 |
| DIN 127B & Imperial SPRING STEEL | Hot Dipped Galvanised | Washers 4 |
| DIN 127B & Imperial SPRING STEEL | Zinc Plated | Washers 4 |
| DIN 127B & Imperial SPRING STEEL | Zinc Plated Yellow Pass. | Washers 4 |
| ALUMINIUM | | Washers 4 |
| STAINLESS STEEL A2 | | Washers 4 |
| STAINLESS STEEL A4 | | Washers 4 |



SPRING LOCK WASHERS (High Collar)

| | | |
|-------------------------------------|-------------|-----------|
| DIN 7980 (Single Coil) SPRING STEEL | Black | Washers 4 |
| DIN 7980 (Single Coil) SPRING STEEL | Zinc Plated | Washers 4 |
| STAINLESS STEEL A2 | | Washers 4 |
| STAINLESS STEEL A4 | | Washers 4 |



SPRING LOCK WASHERS (Double Coil)

| | | |
|--------------|-------|-----------|
| SPRING STEEL | Black | Washers 4 |
|--------------|-------|-----------|



SPRING WASHERS WAVE

| | | |
|------------------------------|--------------------------|-----------|
| DIN 137 B SPRING STEEL | Zinc Plated Yellow Pass. | Washers 4 |
| DIN 137 B STAINLESS STEEL A2 | | Washers 4 |



SPRING WASHERS CURVED

| | | |
|------------------------|-------------------------|-----------|
| DIN 137 A SPRING STEEL | Zinc Plated Yellow Pass | Washers 4 |
|------------------------|-------------------------|-----------|



SPRING LOCK WASHERS CURVED

| | | |
|-------------------------------|--------------------------|-----------|
| DIN 128 A SPRING STEEL | Zinc Plated | Washers 4 |
| DIN 128 A SPRING STEEL | Zinc Plated Yellow Pass. | Washers 4 |
| DIN 128 A STAINLESS STEEL A2 | | Washers 4 |
| DIN 128 A PHOSPHOR BRONZE CU4 | | Washers 4 |

LOCKING SERRATED



COUNTERSUNK SERRATED LOCK WASHERS

| | | |
|-------------------------|-------------|-----------|
| DIN 6798 V SPRING STEEL | Zinc Plated | Washers 5 |
|-------------------------|-------------|-----------|



DOUBLE SERRATED LOCK WASHERS (Int/Ext)

| | | |
|----------------------|-------------|-----------|
| E27-626 SPRING STEEL | Zinc Plated | Washers 5 |
|----------------------|-------------|-----------|



SERRATED LOCK WASHERS Internal Teeth

| | | |
|-------------------------------|-------------|-----------|
| DIN 6798 J SPRING STEEL | Zinc Plated | Washers 5 |
| DIN 6798 J STAINLESS STEEL A2 | | Washers 5 |
| DIN 6798 J STAINLESS STEEL A4 | | Washers 5 |



SERRATED LOCK WASHERS External Teeth

| | | |
|-------------------------------|-------------|-----------|
| DIN 6798 A SPRING STEEL | Zinc Plated | Washers 5 |
| DIN 6798 A STAINLESS STEEL A2 | | Washers 5 |
| DIN 6798 A STAINLESS STEEL A4 | | Washers 5 |

CONTINUED

LOCKING TOOTHED

PAGE



TOOTHED LOCK WASHERS Internal Teeth

DIN 6797 J SPRING STEEL
DIN 6797 J STAINLESS STEEL A2

Zinc Plated

Washers 5
Washers 5



Toothed Lock Washers External Teeth

DIN 6797 A SPRING STEEL
DIN 6797 A STAINLESS STEEL A2

Zinc Plated

Washers 5
Washers 5

LOCK WASHER



CONTACT

Type P

Zinc Plated Mechanical

Washers 6

LOCK WASHER



TAB (Long Tab and wing)

DIN 463 STEEL
DIN 463 STAINLESS STEEL A2

Self Colour

Washers 6
Washers 6

DISC SPRINGS



DISC SPRING

DIN 2093 B Critical Type B medium
DIN 2093 C Critical Type C light

Black Phosphated
Black Phosphated

Washers 7
Washers 7

DIN 2093 A Type A heavy
DIN 2093 B Type B medium
DIN 2093 C Type C light

Black Phosphated
Black Phosphated
Black Phosphated

Washers 7
Washers 7
Washers 7



CONICAL SPRING WASHERS

DIN 6796 For Bolted Connections

Zinc Plated Mech. Yellow

Washers 6



LOCKING DISC SPRING SK

SK Type M Steel
SK Type M Stainless Steel A4
SK Type Z

Dacromet 320
To Order
Dacromet 320

VIBRATION PROOF WASHERS



NORD-LOCK

STEEL Two piece – glued
STAINLESS STEEL Two piece – glued
STEEL Two piece – glued Large O.D.

Zinc Plated Mechanical
Zinc Plated Mechanical

Washers 8
Washers 8
Washers 8

SERRATED SAFTEY WASHERS LOCKING DISC SPRING



SCHNORR

SPRING STEEL Type S
SPRING STEEL Type S
STAINLESS STEEL A2 Type S
SPRING STEEL Type VS

Black
Zinc Plated Mechanical
Zinc Plated Mechanical

Washers 9
Washers 9
Washers 9
Washers 9

CONTINUED

SHAFT RETAINING RINGS- CIRCLIPS

PAGE



EXTERNAL

DIN 471 SPRING STEEL
DIN 471 STAINLESS STEEL A2

Self Colour

Washers 10
Washers 10



INTERNAL

DIN 472 SPRING STEEL
DIN 472 STAINLESS STEEL A2

Self Colour

Washers 11
Washers 11

SHAFT RETAINING WASHERS – E-CLIPS



EXTERNAL

DIN 6799 SPRING STEEL
DIN 4799 STAINLESS STEEL A2

Self Colour

Washers 12
Washers 12

SHAFT FIXING WASHER



PUSH ON FIXES

With-out cap Steel
With cap Type A (Stainless Steel)

Bronze/varnish
Bronze/varnish/St.St

Washers 12
Washers 12

SHIM RINGS



SHIM WASHERS

DIN 988 STEEL

Self Colour

Washers 14

SQUARE WASHERS



SQUARE WASHERS

STEEL
STAINLESS STEEL A2
STAINLESS STEEL A4

Hot Dipped Galvanised

Washers 13
Washers 13
Washers 13

SEALING RINGS



SEALING RINGS

DIN 7603 COPPER ANNEALED
DIN 7603 ALUMINUM

Washers 13
Washers 13

TAPER WASHERS



TAPER WASHERS

STEEL

Hot Dipped Galvanised

Washers 13

STRUCTURAL WASHERS



STRUCTURAL WASHERS

AS1252

Hot Dipped Galvanised

Washers 13

ROOFING SEAL WASHERS

ROOFING SEAL WASHERS

NEOPRENE
Embossed aluminum
EPDM

To Order
To Order
To Order

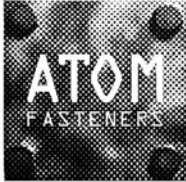
Washers 14
Washers 14
Washers 14

CYCLONE WASHERS

CYCLONE

To Order

Washers 14



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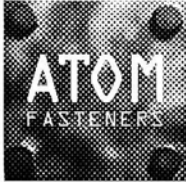
WASHERS DIN125 and DIN 126



| DIAMETER | DIN 125 | M1.6 | M1.7 | M2.0 | M2.3 | M2.5 | M2.6 | M3 |
|-----------------|-------------|------|------|------|------|------|------|-----|
| Outside Dia. | Max | 4 | 4.5 | 5 | 6 | 6 | 7 | 7 |
| Thickness | Nominal | .0.3 | 0.3 | 0.3 | 0.5 | 0.5 | 0.5 | 0.5 |
| STEEL MILD | SELF.COLOUR | | | | | | | |
| | ZINC CLEAR | ✓ | | ✓ | | ✓ | | ✓ |
| | ZINC YELLOW | | | | | | | |
| STEEL H/T | SELF.COLOUR | | | | | | | |
| | ZINC CLEAR | | | | | | | |
| STEEL CI.10 | SELF.COLOUR | | | | | | | |
| STAINLESS STEEL | A2 (G304) | ✓ | | ✓ | | | | ✓ |
| | A4 (G316) | ✓ | | ✓ | | ✓ | | ✓ |
| ALUMINIUM | P40 OR P60 | | | | | | | ✓* |
| BRASS | | | | ✓ | | ✓ | | ✓ |
| PLASTIC | PA NYLON | | | ✓ | | ✓ | | ✓ |
| FIBRE | | | | | | | | ✓* |

| DIAMETER | DIN 125 | M3.5 | M4 | M5 | M6 | M7 | M8 | M10 |
|-----------------|--------------|------|-----|----|-----|-----|-----|-----|
| Outside Dia. | Max | 8 | 9 | 10 | 12 | 14 | 16 | 20 |
| Thickness | Nominal | 0.5 | 0.8 | 1 | 1.6 | 1.6 | 1.6 | 2 |
| STEEL MILD | SELF.COLOUR | | | | | | | |
| | HOT DIP GALV | | | | | | | |
| | ZINC CLEAR | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | ZINC YELLOW | | | ✓ | ✓ | | ✓ | ✓ |
| STEEL H/T | SELF.COLOUR | | | | ✓ | | ✓ | ✓ |
| | ZINC CLEAR | | | | ✓ | | ✓ | ✓ |
| STEEL CI.10 | SELF.COLOUR | | | | | | | |
| STAINLESS STEEL | A2 (G304) | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| | A4 (G316) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| ALUMINIUM | P40 OR P60 | | ✓* | ✓* | ✓* | | ✓* | ✓* |
| BRASS | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| KUPRODUR | CU5 | | | | | | | |
| PLASTIC | NYLON | | ✓ | ✓ | ✓ | | ✓ | ✓ |
| FIBRE | | | ✓* | | | | | ✓* |

* not Din Standard dimensions
CONTINUED



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WASHERS DIN125 and DIN 126

(NF: E25-513) as noted *

| DIAMETER | DIN 125 | M12 | M14 | M16 | M18 | M20 | M22 | M24 |
|---------------------------|--------------|-----|--------|-----|--------|-----|--------|-----|
| Outside Dia. | Max | 24 | 28 | 30 | 34 | 37 | 39 | 44 |
| Thickness | Nominal | 2.5 | 2.5 | 3.0 | 3.0 | 3.0 | 3.0 | 4.0 |
| STEEL MILD | SELF.COLOUR | | | | | | | |
| | HOT DIP GALV | | | | | | | |
| | ZINC CLEAR | | (30) ✓ | | (36) ✓ | | (45) ✓ | |
| | ZINC YELLOW | | | ✓ | | | | |
| STEEL H/T | SELF.COLOUR | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | ZINC CLEAR | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| STEEL CI.10 (DIN 9616) | SELF.COLOUR | ✓ | | ✓ | | ✓ | ✓ | ✓ |
| | HOT DIP GALV | ✓ | | ✓ | | ✓ | ✓ | ✓ |
| STAINLESS STEEL | A2 (G304) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | A4 (G316) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| ALUMINIUM | AG3 | ✓* | | * | | | | |
| BRASS | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| PLASTIC | NYLON | ✓ | | ✓ | | ✓ | | ✓ |

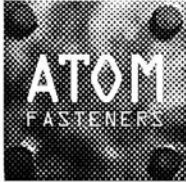
* not Din Standard dimensions

| DIAMETER | DIN 125/126* | M27 | M30 | M33 | M36 | M39* | M42* | M45* |
|---------------------------|--------------|-----|-----|-----|-----|--------|---------|------|
| Outside Dia. | Max | 50 | 56 | 60 | 66 | 72/75* | 78/80* | 85 |
| Thickness | Nominal | 4.0 | 4.0 | 5.0 | 5.0 | 6/6* | 7/6* | 7 |
| STEEL MILD | SELF.COLOUR | | | | | (75) ✓ | (80) ✓* | ✓ |
| | HOT DIP GALV | | | | | ✓ | ✓ | ✓ |
| | ZINC CLEAR | | | | | | | |
| STEEL H/T | SELF.COLOUR | ✓ | ✓ | ✓ | ✓ | | | |
| | ZINC CLEAR | ✓ | ✓ | ✓ | ✓ | | | |
| STEEL CI.10 (DIN 9616) | SELF.COLOUR | ✓ | ✓ | | | | | |
| | HOT DIP GALV | ✓ | ✓ | | ✓ | | | |
| STAINLESS STEEL | A2 (G304) | ✓ | ✓ | ✓ | ✓ | | | |
| | A4 (G316) | ✓ | ✓ | ✓ | ✓ | | | |

| DIAMETER | DIN 126/NF* | M48 | M52 | M56 | M60 | M64 | M68 | M72 |
|--------------|--------------|--------|---------|-----|-----|-----|-----|-----|
| Outside Dia. | Max | 90/92 | 98/100 | 105 | 110 | 115 | | 172 |
| Thickness | Nominal | 7/8 | 8/8 | 9 | 9 | 9 | | 10 |
| STEEL MILD | SELF.COLOUR | (90) ✓ | (100) ✓ | ✓* | ✓ | ✓ | | ✓ |
| | HOT DIP GALV | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| | ZINC CLEAR | | | | | | | |
| STEEL H/T | SELF.COLOUR | | | | | | | |
| | ZINC CLEAR | | | | | | | |

| DIAMETER | DIN 126 | M76 | M80 | M90 | M100 | M110 | |
|--------------|--------------|-----|-----|-----|------|------|--|
| Outside Dia. | Max | | 140 | 160 | | | |
| Thickness | Nominal | | 12 | 12 | | | |
| STEEL MILD | SELF.COLOUR | | ✓ | ✓ | | | |
| | HOT DIP GALV | | | | | | |

✓ = STOCK ITEMS Other sizes available to order Washer to New Zealand Dimensions also carried



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WASHERS LARGE



| DIAMETER | | M6 | M8 | M10 | M12 | M12 | M16 | M18 |
|--------------|---------|-----|-------|-------|-------|-----|-------|-----|
| Outside Dia. | Max | 19 | 21 | 24 | 28 | 50 | 34 | |
| Thickness | Nominal | 2.5 | 2.5 | 2.5 | 2.5 | 3.0 | 3.0 | |
| Steel | | G Z | B G Z | B G Z | B G Z | G | B G Z | |

| DIAMETER | | M20 | M20 | M20 | M20 | M22 | M24 | M24 |
|--------------|---------|-------|-----|-----|-----|------|-----|-------|
| Outside Dia. | Max | 39 | 50 | 50 | 65 | 47.5 | 44 | 50 |
| Thickness | Nominal | 3.0 | 3.0 | 6.0 | 6.0 | 3.0 | 3.0 | 3.0 |
| Steel | | B G Z | 6 | G | G | G | 4 6 | B G Z |

| DIAMETER | | M27 | M30 | M33 | M36 | M42 | M48 | M56 |
|--------------|---------|-----|-----|-----|-------|-----|-----|-----|
| Outside Dia. | Max | 60 | 60 | 67 | 72 | 85 | 96 | 95 |
| Thickness | Nominal | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 6 |
| Steel | | G | G Z | B G | B G Z | G | B G | B |

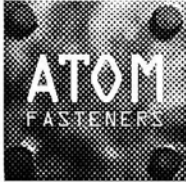
EX STOCK B = BLACK, G = HOT DIP GALV, Z = CLEAR ZINC PLATE 4 = STAINLESS STEEL A2 (G304) 6 = STAINLESS STEEL A4 (G316)

WASHERS DIN 9021



| DIAMETER | | M12 | M14 | M16 | M18 | M20 | M22 | M24 |
|--------------|---------|-----|-----|-----|-----|-----|-----|-----|
| Outside Dia. | Max | 37 | 44 | 50 | 56 | 60 | | 72 |
| Thickness | Nominal | 3.0 | 3.0 | 3.0 | 4.0 | 4.0 | | 5.0 |
| Steel | | Z | Z | Z 4 | Z | Z | | Z |

EX STOCK B = BLACK, G = HOT DIP GALV, Z = CLEAR ZINC PLATE 4 = STAINLESS STEEL A2 (G304) 6 = STAINLESS STEEL A4 (G316)



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WASHERS SPRING

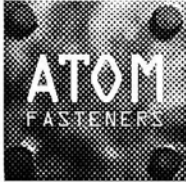
STEEL and STAINLESS STEEL

| | SPRING LOCK WASHERS | | | SPRING LOCK WASHERS HIGH COLLAR | | | WAVE SPRING WASHERS | | | CURVE SPRING WASHERS | | | CURVED SPRING LOCK WASHERS | | |
|-----------|---------------------|-----|-----------|---------------------------------|-----|--------|---------------------|------|--------|----------------------|-----|--------|----------------------------|-----|--------|
| | DIN 127 B | | | DIN 7980 | | | DIN 137 B | | | DIN 137 A | | | DIN 128 A | | |
| DIA. BOLT | O.D | THK | FINISH | O.D | THK | FINISH | O.D | THK | FINISH | O.D | THK | FINISH | O.D | THK | FINISH |
| M2 | 4.4 | 0.5 | 4 | | | | | | | 4.5 | 0.3 | | 4.4 | 0.5 | |
| M2.5 | 5.2 | 0.6 | 4 | | | | | | | 5 | 0.3 | | 5.1 | 0.6 | Z |
| M3 | 6.2 | 0.8 | Z 4 6 | 5.6 | 1 | Z 4 6 | 8 | 0.5 | Y 4 | 6 | 0.4 | | 6.2 | 0.7 | P Z |
| M3.5 | 6.7 | 0.8 | Z | | | | | | | 7 | 0.4 | | 6.7 | 0.7 | |
| M4 | 7.6 | 0.9 | Z 4 6 | 7 | 1.2 | Z 4 6 | 9 | 0.5 | Y 4 | 8 | 0.5 | | 7.6 | 0.8 | P Z |
| M5 | 9.2 | 1.2 | Z 4 6 | 8.8 | 1.6 | Z 4 6 | 11 | 0.5 | Y 4 | 10 | 0.5 | Y | 9.2 | 1 | P Z |
| M6 | 9.2 | 1.6 | G Z 4 6 | 9.9 | 1.6 | Z 4 6 | 12 | 0.5 | Y 4 | 11 | 0.5 | Y | 11.8 | 1.3 | P Z |
| M7 | 12.8 | 1.6 | Y | | | | 14 | 0.8 | | 12 | 0.5 | | 12.7 | 1.3 | Z |
| M8 | 14.8 | 2 | A G Z 4 6 | 12.7 | 2 | Z 4 6 | 15 | 0.58 | Z 4 | 15 | 0.5 | Y | 14.8 | 1.6 | P Z |
| M10 | 18.1 | 2.2 | A G Z 4 6 | 16 | 2.5 | Z 4 6 | 21 | 1 | Y 4 | 18 | 0.8 | Y | 16.1 | 1.8 | P Z |
| M12 | 21.1 | 2.5 | B G Z 4 6 | 18 | 2.5 | Z 4 6 | 24 | 1.2 | Y 4 | | | | 21.1 | 2.1 | P Z |
| M14 | 24.1 | 3 | Z | 21.1 | 3 | Z | 28 | 1.6 | | | | | 24.1 | 2.4 | Z |
| M16 | 27.4 | 3.5 | G Z 4 6 | 24.4 | 3.5 | Z 6 | 30 | 1.6 | B 4 | | | | 27.4 | 2.8 | P Z |
| M18 | 29.4 | 3.5 | G Z 4 6 | 26.4 | 3.5 | 6 | | | | | | | 29.4 | 2.8 | Z |
| M20 | 33.6 | 4 | G Z 4 6 | 30.6 | 4.5 | Z 6 | 36 | 1.6 | B 4 | | | | 33.6 | 3.2 | Z |
| M22 | 35.9 | 4 | Z 4 6 | 32.9 | 4.5 | Z | 40 | 1.8 | | | | | 35.9 | 3.2 | Z |
| M24 | 40 | 5 | G Z 4 6 | 35.9 | 5 | Z 6 | 44 | 1.8 | 4 | | | | 40 | 4 | Z |
| M27 | 43 | 5 | B G Z | 38.9 | 5 | Z | | | | | | | 43 | 4 | Z |
| M30 | 48.2 | 6 | B G Z | 44.1 | 6 | Z | | | | | | | 48.2 | 6 | Z |
| M33 | 55.2 | 6 | B Z | | | | | | | | | | 54.2 | 6 | |
| M36 | 58.2 | 6 | B Z | 52.2 | 7 | | | | | | | | 58.2 | 6 | |
| M39 | 61.2 | 6 | B | | | | | | | | | | 58.6 | 6 | |
| M42 | 68.2 | 7 | B | | | | | | | | | | 68.2 | 7 | |
| M45 | 71.2 | 7 | B | | | | | | | | | | 70.5 | 7 | |
| M48 | 75 | 7 | B | | | | | | | | | | 75 | 7 | |
| M52 | 83 | 8 | B | | | | | | | | | | | | |
| M56 | 87 | 8 | B | | | | | | | | | | | | |
| M60 | 91 | 8 | B | | | | | | | | | | | | |
| M64 | 95 | 8 | B | | | | | | | | | | | | |
| M68 | 99 | 8 | B | | | | | | | | | | | | |
| M72 | 106 | 8 | B | | | | | | | | | | | | |
| M76 | 107 | 8 | B | | | | | | | | | | | | |

ALUMINIUM SPRING WASHER VARY

FINISHES: A= ALUMINIUM B=BLACK G= HOT DIPPED GALVANISED P= PHOSPHOR BRONZE Cu4 Z= ZINC CLEAR
Y = YELLOW ZINC PLATED/PASSIVATED or MECHANICAL 4 = A2(G304) ST/STEEL 6 = A4(G316)ST/STEEL






| | | | | | | |
|-----------------------------------|----|----|-----|-----|-----|-----|
| DOUBLE COIL SPRING WASHERS | M6 | M8 | M10 | M12 | M16 | M20 |
|-----------------------------------|----|----|-----|-----|-----|-----|



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WASHERS LOCKING SERRATED STEEL and STAINLESS STEEL

| |  | | |  | | |  | | |  | | |  | | |
|-----------|---|------|--------|---|-----|--------|---|-----|--------|---|-----|--------|---|-----|--------|
| | COUNTERSUNK SERRATED | | | SERRATED INTERNAL TEETH | | | SERRATED EXTERNAL TEETH | | | TOOTHED INTERNAL TEETH | | | TOOTHED EXTERNAL TEETH | | |
| | DIN 6798 V | | | DIN 6798 J | | | DIN 6798 A | | | DIN 6797 J | | | DIN 6797 A | | |
| DIA. BOLT | O.D | THK | FINISH | O.D | THK | FINISH | O.D | THK | FINISH | O.D | THK | FINISH | O.D | THK | FINISH |
| M2 | | | | 4.5 | 0.3 | Z | 4.5 | 0.3 | Z 4 | | | Z | | | Z |
| M2.5 | | | | 5.5 | 0.4 | Z | 5.5 | 0.4 | Z | | | Z 4 | | | |
| M3 | 6 | 0.2 | Z | 6 | 0.4 | Z 4 | 6 | 0.4 | Z 4 | 6 | 0.4 | Z 4 | 6 | 0.4 | B Z 4 |
| M3.5 | | | | 7 | 0.5 | Z | 7 | 0.5 | 4 | | | Z | | | |
| M4 | 8 | 0.25 | Z | 8 | 0.5 | Z 4 | 8 | 0.5 | Z 4 | 8 | 0.5 | Z 4 | 8 | 0.5 | B Z 4 |
| M5 | 9.8 | 0.3 | Z | 9 | 0.5 | Z 4 | 10 | 0.6 | Z 4 | 10 | 0.6 | Z 4 | 10 | 0.6 | B Z 4 |
| M6 | 11.8 | 0.4 | Z | 11 | 0.7 | Z 4 | 11 | 0.7 | Z 4 | 11 | 0.7 | Z 4 | 11 | 0.7 | B Z 4 |
| M7 | | | | 12.5 | 0.8 | Z | 12.5 | 0.8 | Z | | | | | | |
| M8 | 15.3 | 0.4 | Z | 14 | 0.8 | Z 4 | 15 | 0.8 | Z 4 | 15 | 0.8 | Z 4 | 15 | 0.8 | Z 4 |
| M10 | 19 | 0.5 | Z | 18 | 0.9 | Z 4 | 18 | 0.9 | Z 4 | 18 | 0.9 | Z 4 | 18 | 0.9 | Z 4 |
| M12 | 23 | 0.5 | Z | 20.5 | 1 | Z 4 | 20.5 | 1 | B Z 4 | 20.5 | 1 | Z 4 | 20.5 | 1 | Z 4 |
| M14 | 26.2 | 0.6 | Z | 24 | 1.1 | Z | 24 | 1 | Z 4 | | | Z | | | Z |
| M16 | 30.2 | 0.6 | B | 26 | 1.2 | Z | 26 | 1. | Z | 26 | 1.2 | Z 4 6 | 26 | 1.2 | Z 4 |
| M18 | | | | 30 | 1.4 | Z | 30 | 1.4 | Z | | | | | | |
| M20 | | | | 33 | 1.4 | Z | 33 | 1.4 | Z | 33 | 1.4 | B Z 4 | 33 | 1.4 | Z |
| M22 | | | | 36 | 1.5 | Z | 36 | 1.5 | Z | | | Z | | | Z |
| M24 | | | | 38 | 1.5 | Z | 38 | 1.6 | Z | | | Z | | | Z |
| M27 | | | | 44 | 1.6 | B | 44 | 1.6 | Z | | | | | | |
| M30 | | | | 48 | 1.6 | B | 48 | 1.6 | B | | | | | | |

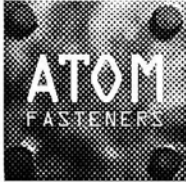
FINISHES: B=BLACK Z= ZINC CLEAR Y = YELLOW ZINC PLATED/PASSIVATED or MECHANICAL
4 = A2(G304) ST/STEEL 6 = A4(G316) ST/STEEL

DOUBLE SERRATED INT/EXT



E27-626

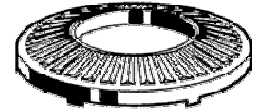
| DIA. BOLT | I.D | O.D | Thick. | FINISH | DIA. BOLT | I.D | O.D | Thick. | FINISH |
|-----------|-----|------|--------|--------|-----------|------|------|--------|--------|
| M4 | 4.2 | 15.6 | 0.8 | Z | M10 | 10.3 | 12.3 | 1.1 | B Z |
| M5 | 5.2 | 17.9 | 0.8 | Z | M12 | 12.3 | 30.3 | 1.2 | Z |
| M6 | 6.2 | 18.2 | 0.8 | Z | M16 | 16.5 | 36.1 | 1.4 | Z |
| M8 | 8.2 | 22.6 | 1.0 | Z | | | | | |



ATOM FASTENERS LTD

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CONTACT-LOCK WASHERS



STEEL TYPE P

| DIA. BOLT | I.D | O.D | Thick. | Height max | STEEL M/YZP | DIA. BOLT | I.D | O.D | Thick. | Height max | STEEL M/YZP |
|-----------|-----|-----|--------|------------|-------------|-----------|------|-----|--------|------------|-------------|
| M4 | 4.1 | 8 | 0.8 | 1.15 | ✓ | M8 | 8.2 | 14 | 1.4 | 2.0 | ✓ |
| M5 | 5.1 | 10 | 1 | 1.5 | ✓ | M10 | 10.2 | 20 | 1.6 | 2.6 | ✓ |
| M6 | 6.1 | 12 | 1.2 | 1.8 | ✓ | M12 | 12.4 | 24 | 1.6 | 2.6 | ✓ |

✓ EX STOCK FOR USE WITH Fasteners Cl. 10.9 Ribbed upper-side, 6 Prongs under-side

TAB WASHERS



DIN 463 STEEL and STAINLESS STEEL

LONG TAB with WING

| DIA. BOLT | I.D | O.D | Thickness | LEG | | STEEL | ST/STEEL A2 | DIA. BOLT | I.D | O.D | Thickness | LEG | | STEEL | ST/STEEL A2 |
|-----------|------|------|-----------|-----|----|-------|-------------|-----------|-----|-----|-----------|-----|-----|-------|-------------|
| | | | | LL. | SW | | | | | | | LL. | SW. | | |
| M6 | 6.4 | 12.5 | 0.5 | 18 | 9 | ✓ | ✓ | M16 | 17 | 30 | 1 | 32 | 18 | ✓ | ✓ |
| M8 | 8.4 | 17 | 0.75 | 20 | 11 | ✓ | ✓ | M18 | 19 | 34 | 1 | 36 | 20 | ✓ | ✓ |
| M10 | 10.5 | 21 | 0.75 | 22 | 13 | ✓ | ✓ | M20 | 21 | 37 | 1 | 36 | 21 | ✓ | ✓ |
| M12 | 13 | 24 | 1 | 28 | 15 | ✓ | ✓ | M22 | 23 | 39 | 1 | 42 | 23 | ✓ | ✓ |
| M14 | 15 | 28 | 1 | 28 | 16 | ✓ | ✓ | M24 | 25 | 44 | 1 | 42 | 25 | ✓ | ✓ |

✓ EX STOCK

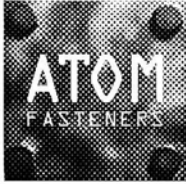
CONICAL DISC SPRING WASHERS



DIN 6796 STEEL FOR BOLTED CONNECTIONS

| DIA. BOLT | I.D | O.D | Thick. | Height max | STEEL M/YZP | DIA. BOLT | I.D | O.D | Thick. | Height max | STEEL M/YZP |
|-----------|------|-----|--------|------------|-------------|-----------|-----|-----|--------|------------|-------------|
| M3 | 3.2 | 7 | 0.6 | 0.85 | ✓ | M12 | 13 | 29 | 3 | 3.95 | ✓ |
| M4 | 4.3 | 9 | 1 | 1.3 | ✓ | M14 | 15 | 35 | 3.5 | 4.65 | ✓ |
| M5 | 5.3 | 11 | 1.2 | 1.55 | ✓ | M16 | 17 | 39 | 4 | 5.25 | ✓ |
| M6 | 6.4 | 14 | 1.5 | 2 | ✓ | M20 | 21 | 45 | 5 | 6.4 | ✓ |
| M8 | 8.4 | 18 | 2 | 2.6 | ✓ | M22 | 23 | 49 | 5.5 | 7.05 | ✓ blk |
| M10 | 10.5 | 23 | 2.5 | 3.2 | ✓ | M24 | 25 | 56 | 6 | 7.75 | ✓ |

✓ EX STOCK FOR USE WITH Fasteners Cl. 8.8 and Cl. 10.9 Static Loading



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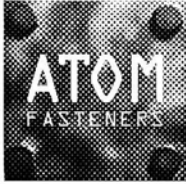
VIBRATION PROOF WASHERS

STEEL and STAINLESS STEEL (NORD-LOCK) WASHER
Preassembled Pairs



| DIA. BOLT | STEEL | | | | Torque 8.8 Nm | Torque 10.9 Nm | DIA. BOLT | STAINLESS STEEL | | | | Torque A4-70 |
|-----------|-------|------|--------|-------|---------------|----------------|-----------|-----------------|------|-------|-------|--------------|
| | I.D | O.D | Thick. | STOCK | | | | I.D | O.D | Thick | STOCK | |
| M3 | 3.4 | 7.0 | 1.8 | ✓ | 1.3 | 1.8 | M3 ss | 3.4 | 7.0 | 2.2 | ✓ | 0.9 |
| M3.5 | 3.9 | 7.6 | 1.8 | ✓ | | | M3.5ss | 3.9 | 7.6 | 2.2 | ✓ | |
| M3.5sp | 3.9 | 9.0 | 1.8 | ✓ | | | M3.5spss | 3.9 | 9.0 | 2.2 | | |
| M4 | 4.4 | 7.6 | 1.8 | ✓ | 3.1 | 4.1 | M4 ss | 4.4 | 7.6 | 2.2 | ✓ | 2.0 |
| M4 sp | 4.4 | 9.0 | 1.8 | ✓ | | | M4 spss | 4.4 | 9.0 | 2.2 | | |
| M5 | 5.4 | 9.0 | 1.8 | ✓ | 6.0 | 8.1 | M5 ss | 5.4 | 9.0 | 2.2 | ✓ | 3.9 |
| M5 sp | 5.4 | 10.8 | 1.8 | ✓ | | | M5 spss | 5.4 | 10.8 | 2.2 | | |
| M6 | 6.5 | 10.8 | 1.8 | ✓ | 9.7 | 14.1 | M6 ss | 6.5 | 10.8 | 2.2 | ✓ | 6.9 |
| M6 sp | 6.5 | 13.5 | 2.5 | ✓ | | | M6 spss | 6.5 | 13.5 | 2.2 | ✓ | |
| 1/4" | 7.2 | 11.5 | 1.8 | ✓ | | | 1/4" ss | 7.2 | 11.5 | 2.2 | | |
| 1/4" sp | 7.2 | 13.5 | 2.5 | ✓ | | | 1/4" spss | 7.2 | 13.5 | 2.2 | | |
| M8 | 8.7 | 13.5 | 2.5 | ✓ | 25 | 34 | M8 ss | 8.7 | 13.5 | 2.2 | ✓ | 17 |
| M8 sp | 8.7 | 16.6 | 2.5 | ✓ | | | M8 spss | 8.7 | 16.6 | 2.2 | ✓ | |
| 3/8" | 10.3 | 16.6 | 2.5 | ✓ | | | 3/8" ss | 10.3 | 16.6 | 2.2 | | |
| 3/8" sp | 10.3 | 21.0 | 2.5 | ✓ | | | 3/8" spss | 10.3 | 21.0 | 2.2 | | |
| M10 | 10.7 | 16.6 | 2.5 | ✓ | 49 | 67 | M10 ss | 10.7 | 16.6 | 2.2 | ✓ | 33 |
| M10 sp | 10.7 | 21.0 | 2.5 | ✓ | | | M10 spss | 10.7 | 21.0 | 2.2 | ✓ | |
| M11 | 11.4 | 18.5 | 2.5 | ✓ | | | M11 ss | 11.4 | 18.5 | 2.2 | | |
| M12 | 13.0 | 19.5 | 2.5 | ✓ | 85 | 115 | M12 ss | 13.0 | 19.5 | 2.2 | ✓ | 56 |
| M12 sp | 13.0 | 25.4 | 3.4 | ✓ | | | M12 spss | 13.0 | 25.4 | 3.2 | ✓ | |
| 1/2" | 13.5 | 19.5 | 2.5 | ✓ | | | 1/2" ss | 13.5 | 19.5 | 2.2 | | |
| 1/2" sp | 13.5 | 25.4 | 3.4 | ✓ | | | 1/2" spss | 13.5 | 25.4 | 3.2 | | |
| M14 | 15.2 | 23.0 | 3.4 | ✓ | 135 | 183 | M14 ss | 15.2 | 23.0 | 3.2 | ✓ | 89 |
| M14 sp | 15.2 | 30.7 | 3.4 | ✓ | | | M14 spss | 15.2 | 30.7 | 3.2 | ✓ | |
| M16 | 17.0 | 25.4 | 3.4 | ✓ | 205 | 279 | M16 ss | 17.0 | 25.4 | 3.2 | | 136 |
| M16 sp | 17.0 | 30.7 | 3.4 | ✓ | | | M16 spss | 17.0 | 30.7 | 3.2 | ✓ | |
| M18 | 19.5 | 29.0 | 3.4 | ✓ | 288 | 391 | M18 ss | 19.5 | 29.0 | 3.2 | ✓ | 191 |
| M18 sp | 19.5 | 34.5 | 3.4 | ✓ | | | M18 spss | 19.5 | 34.5 | 3.2 | ✓ | |
| 3/4" | 20.0 | 30.7 | 3.4 | ✓ | | | 3/4" ss | 20.0 | 30.7 | 3.2 | | |
| 3/4" sp | 20.0 | 39.0 | 3.4 | ✓ | | | 3/4" spss | 20.0 | 39.0 | 3.2 | | |
| M20 | 21.4 | 30.7 | 3.4 | ✓ | 402 | 547 | M20 ss | 21.4 | 30.7 | 3.2 | ✓ | 267 |
| M20 sp | 21.4 | 39.0 | 3.4 | ✓ | | | M20 spss | 21.4 | 39.0 | 3.2 | ✓ | |
| M22 | 23.4 | 34.5 | 3.4 | ✓ | 548 | 745 | M22 ss | 23.4 | 34.5 | 3.2 | ✓ | 364 |
| M22 sp | 23.4 | 42.0 | 4.6 | ✓ | | | M22 spss | 23.4 | 42.0 | 3.2 | | |
| M24 | 25.3 | 39.0 | 3.4 | ✓ | 693 | 942 | M24 ss | 25.3 | 39.0 | 3.2 | ✓ | 460 |
| M24 sp | 25.3 | 48.5 | 4.6 | ✓ | | | M24 spss | 25.3 | 48.5 | 3.2 | ✓ | |
| 1" | 27.9 | 39.0 | 3.4 | ✓ | | | 1" ss | 27.9 | 39.0 | 3.2 | | |
| 1" sp | 27.9 | 48.5 | 4.6 | ✓ | | | 1" spss | 27.9 | 48.5 | 3.2 | | |
| M27 | 28.4 | 42.0 | 6.6 | ✓ | 1010 | 1375 | M27 ss | 28.4 | 42.0 | 6.8 | ✓ | 671 |
| M27 sp | 28.4 | 48.5 | 6.6 | ✓ | | | M27 spss | 28.4 | 48.5 | 6.8 | | |
| M30 | 31.4 | 47.0 | 6.6 | ✓ | 1379 | 1875 | M30 ss | 31.4 | 47.0 | 6.8 | ✓ | 915 |
| M30 sp | 31.4 | 58.5 | 6.6 | ✓ | | | M30 spss | 31.4 | 58.5 | 6.8 | | |
| M33 | 34.4 | 48.5 | 6.6 | ✓ | 1855 | 2526 | M33 ss | 34.4 | 48.5 | 6.6 | | 1233 |
| M33 sp | 34.4 | 58.5 | 6.6 | | | | M33 spss | | | | | |
| M36 | 37.4 | 55.0 | 6.6 | ✓ | 2394 | 3259 | M36 ss | 37.4 | 55.0 | 6.8 | | 1591 |
| M36 sp | 37.4 | 63.0 | 6.6 | | | | M36 spss | | | | | |
| M39 | 40.4 | 58.5 | 6.6 | ✓ | 3087 | 4203 | M39 ss | 40.4 | 58.5 | 6.8 | | 2053 |
| M42 | 43.2 | 63.0 | 6.6 | ✓ | 3820 | 5202 | M42 ss | 43.2 | 63.0 | 6.8 | ✓ | 2540 |
| M45 | 46.2 | 70.0 | 7.0 | ✓ | | | M45 ss | 46.2 | 70.0 | 9.0 | | |
| M48 | 49.6 | 75.0 | 7.0 | ✓ | | | M48 ss | 49.6 | 75.0 | 9.0 | | |

STEEL finish ZINC FLAKE, ss = STAINLESS STEEL, sp = Large Outside Dia:
Torque in Nm with ZP/Lightly Oiled Bolt, Black 10.9 Bolt or A4-70 Stainless Steel Bolt



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SERRATED LOCKING DISC SPRING SAFETY WASHERS

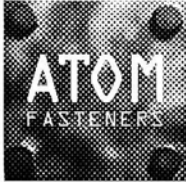


STEEL and STAINLESS STEEL (SCHNORR) WASHER

| DIA. BOLT | I.D | O.D | Type S | STEEL TYPE S BLACK | STEEL TYPE S M/ZINC PLATED | ST/ STEEL A2 | Type VS | STEEL TYPE VS BLACK | STEEL TYPE S M/ZINC PLATED |
|-----------|------|-----|-----------|--------------------|----------------------------|--------------|-----------|---------------------|----------------------------|
| | | | Thickness | | | | Thickness | | |
| M2.5 | 2.7 | 4.8 | 0.45 | | | ✓ | | | |
| M3 | 3.2 | 5.5 | 0.45 | ✓ | ✓ | ✓ | | | |
| M4 | 4.3 | 7 | 0.5 | ✓ | ✓ | ✓ | | | |
| M5 | 5.3 | 9 | 0.6 | ✓ | ✓ | ✓ | 1 | ✓ | ✓ |
| M6 | 6.4 | 10 | 0.7 | ✓ | ✓ | ✓ | 1 | ✓ | ✓ |
| M8 | 8.4 | 13 | 0.8 | ✓ | ✓ | ✓ | 1.2 | ✓ | ✓ |
| M10 | 10.5 | 16 | 1 | ✓ | ✓ | ✓ | 1.5 | ✓ | ✓ |
| M12 | 13 | 18 | 1.1 | ✓ | ✓ | ✓ | 1.5 | ✓ | ✓ |
| M14 | 15 | 22 | 1.2 | ✓ | ✓ | ✓ | 1.5 | ✓ | ✓ |
| M16 | 17 | 24 | 1.3 | ✓ | ✓ | ✓ | 2 | ✓ | ✓ |
| M18 | 19 | 27 | 1.5 | ✓ | ✓ | | | | |
| M20 | 21 | 30 | 1.5 | ✓ | ✓ | ✓ | 2 | ✓ | ✓ |
| M22 | 23 | 33 | 1.5 | ✓ | ✓ | | | | |
| M24 | 25.6 | 36 | 1.8 | ✓ | ✓ | ✓ | 2.5 | ✓ | ✓ |
| M27 | 28.6 | 39 | 2 | ✓ | ✓ | | 2.5 | ✓ | ✓ |
| M30 | 31.6 | 45 | 2 | ✓ | ✓ | ✓ | | | |

Type S for use with 8.8 bolts Type VS for use with 10.9 bolts

ATOM FASTENERS LTD

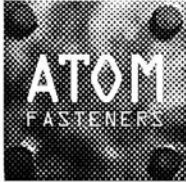


CIRCLIPS EXTERNAL DIN 471 STEEL and STAINLESS STEEL



| SHAFT DIA. mm | STEEL | ST/STEEL | SHAFT DIA. mm | STEEL | ST/STEEL | SHAFT DIA. mm | STEEL | ST/STEEL |
|------------------|-------|----------|------------------|-------|----------|------------------|-------|----------|
| 3 | ✓ | | 37 | ✓ | | 95 | ✓ | ✓ |
| 4 | ✓ | ✓ | 38 | ✓ | ✓ | 97 | | |
| 5 | ✓ | ✓ | 39 | ✓ | | 98 | | |
| 6 | ✓ | ✓ | 40 | ✓ | | 100 | ✓ | ✓ |
| 7 | ✓ | ✓ | 42 | ✓ | | 105 | ✓ | |
| 8 | ✓ | | 44 | ✓ | | 110 | ✓ | |
| 9 | ✓ | ✓ | 45 | ✓ | ✓ | 115 | ✓ | |
| 10 | ✓ | ✓ | 47 | ✓ | | 120 | ✓ | |
| 11 | ✓ | ✓ | 48 | ✓ | ✓ | 125 | ✓ | |
| 12 | ✓ | ✓ | 50 | ✓ | ✓ | 130 | ✓ | |
| 13 | ✓ | ✓ | 52 | ✓ | ✓ | 135 | ✓ | |
| 14 | ✓ | ✓ | 54 | ✓ | | 140 | ✓ | |
| 15 | ✓ | ✓ | 55 | ✓ | ✓ | 145 | ✓ | |
| 16 | ✓ | ✓ | 56 | ✓ | | 150 | ✓ | |
| 17 | ✓ | | 57 | ✓ | | 155 | ✓ | |
| 18 | ✓ | ✓ | 58 | ✓ | ✓ | 160 | ✓ | |
| 19 | ✓ | | 60 | ✓ | ✓ | 165 | ✓ | |
| 20 | ✓ | ✓ | 62 | ✓ | ✓ | 170 | ✓ | |
| 21 | ✓ | | 63 | ✓ | | 175 | ✓ | |
| 22 | ✓ | ✓ | 65 | ✓ | ✓ | 180 | ✓ | |
| 23 | | | 67 | ✓ | | 185 | ✓ | |
| 24 | ✓ | ✓ | 68 | ✓ | | 190 | ✓ | |
| 25 | ✓ | ✓ | 70 | ✓ | ✓ | 195 | ✓ | |
| 26 | ✓ | | 72 | ✓ | | 200 | ✓ | |
| 27 | ✓ | | 75 | ✓ | ✓ | 210 | ✓ | |
| 28 | ✓ | ✓ | 77 | ✓ | | 220 | ✓ | |
| 29 | ✓ | | 78 | ✓ | | 230 | ✓ | |
| 30 | ✓ | ✓ | 80 | ✓ | ✓ | 240 | ✓ | |
| 31 | | | 82 | ✓ | | 250 | ✓ | |
| 32 | ✓ | ✓ | 85 | ✓ | ✓ | 260 | ✓ | |
| 33 | | | 87 | ✓ | | 270 | ✓ | |
| 34 | ✓ | ✓ | 88 | ✓ | | 280 | ✓ | |
| 35 | ✓ | ✓ | 90 | ✓ | ✓ | 290 | ✓ | |
| 36 | ✓ | ✓ | 92 | ✓ | | 300 | ✓ | |

✓ EX STOCK

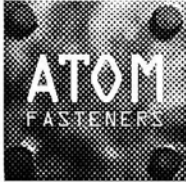


CIRCLIPS INTERNAL DIN 472 STEEL and STAINLESS STEEL



| SHAFT DIA. mm | STEEL | ST/STEEL | SHAFT DIA. mm | STEEL | ST/STEEL | SHAFT DIA. mm | STEEL | ST/STEEL |
|------------------|-------|----------|------------------|-------|----------|------------------|-------|----------|
| 8 | ✓ | | 44 | ✓ | | 100 | ✓ | ✓ |
| 9 | ✓ | | 45 | ✓ | ✓ | 102 | ✓ | |
| 10 | ✓ | ✓ | 46 | ✓ | | 105 | ✓ | |
| 11 | ✓ | ✓ | 47 | ✓ | | 108 | ✓ | |
| 12 | ✓ | ✓ | 48 | ✓ | ✓ | 110 | ✓ | |
| 13 | ✓ | ✓ | 50 | ✓ | ✓ | 112 | ✓ | |
| 14 | ✓ | ✓ | 51 | ✓ | | 115 | ✓ | |
| 15 | ✓ | ✓ | 52 | ✓ | | 117 | ✓ | |
| 16 | ✓ | ✓ | 53 | ✓ | | 120 | ✓ | |
| 17 | ✓ | ✓ | 54 | ✓ | | 125 | ✓ | |
| 18 | ✓ | ✓ | 55 | ✓ | | 130 | ✓ | |
| 19 | ✓ | ✓ | 56 | ✓ | | 135 | ✓ | |
| 20 | ✓ | ✓ | 57 | ✓ | | 140 | ✓ | |
| 21 | ✓ | | 58 | ✓ | ✓ | 145 | ✓ | |
| 22 | ✓ | ✓ | 60 | ✓ | ✓ | 150 | ✓ | |
| 23 | ✓ | | 62 | ✓ | ✓ | 155 | ✓ | |
| 24 | ✓ | ✓ | 63 | ✓ | | 160 | ✓ | |
| 25 | ✓ | ✓ | 64 | ✓ | ✓ | 165 | ✓ | |
| 26 | ✓ | ✓ | 65 | ✓ | | 170 | ✓ | |
| 27 | ✓ | | 67 | ✓ | | 175 | ✓ | |
| 28 | | ✓ | 68 | ✓ | | 180 | ✓ | |
| 29 | ✓ | | 70 | ✓ | | 185 | ✓ | |
| 30 | ✓ | ✓ | 72 | ✓ | ✓ | 190 | ✓ | |
| 31 | ✓ | | 75 | ✓ | ✓ | 195 | ✓ | |
| 32 | ✓ | ✓ | 77 | ✓ | | 200 | ✓ | |
| 33 | ✓ | | 78 | ✓ | ✓ | 210 | ✓ | |
| 34 | ✓ | | 80 | ✓ | ✓ | 220 | ✓ | |
| 35 | ✓ | ✓ | 82 | ✓ | | 230 | ✓ | |
| 36 | ✓ | ✓ | 85 | ✓ | | 240 | ✓ | |
| 37 | ✓ | ✓ | 87 | ✓ | | 250 | ✓ | |
| 38 | ✓ | ✓ | 88 | ✓ | | 260 | ✓ | |
| 39 | ✓ | | 90 | ✓ | ✓ | 270 | ✓ | |
| 40 | ✓ | ✓ | 92 | ✓ | | 280 | ✓ | |
| 41 | ✓ | | 95 | ✓ | | 290 | ✓ | |
| 42 | ✓ | | 97 | | | 300 | ✓ | |
| 43 | ✓ | | 98 | ✓ | | | | |

✓ EX STOCK



ATOM FASTENERS LTD

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SHAFT RETAINING WASHERS



DIN 6799 STEEL and STAINLESS STEEL (E CLIPS)

| GROOVE DIA. mm | STEEL | | ST/STEEL | GROOVE DIA. mm | STEEL | | ST/STEEL | GROOVE DIA. mm | STEEL | | ST/STEEL |
|----------------|-------|----|----------|----------------|-------|----|----------|----------------|-------|----|----------|
| | BLK | ZP | | | BLK | ZP | | | BLK | ZP | |
| 1.2 mm | ✓ | | | 4 mm | ✓ | | | 10 mm | ✓ | ✓ | ✓ |
| 1.5 mm | ✓ | | | 5 mm | ✓ | ✓ | ✓ | 12 mm | ✓ | ✓ | ✓ |
| 1.9 mm | ✓ | | | 6 mm | ✓ | ✓ | ✓ | 15 mm | ✓ | ✓ | |
| 2.3 mm | ✓ | | | 7 mm | | ✓ | | 19 mm | ✓ | ✓ | |
| 2.5 mm | | | ✓ | 8 mm | ✓ | ✓ | ✓ | 24 mm | ✓ | ✓ | |
| 3.2 mm | ✓ | | ✓ | 9 mm | ✓ | | | | | | |

✓ EX STOCK

SHAFT FIXING WASHERS

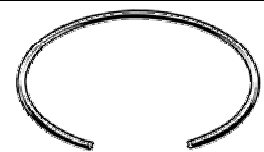


STEEL and STAINLESS STEEL (PUSH on FIXES)

| SHAFT DIA. mm | STEEL | ST/STEEL | SHAFT DIA. mm | STEEL | ST/STEEL | SHAFT DIA. mm | STEEL | ST/STEEL |
|---------------|-------|----------|---------------|-------|----------|---------------|-------|----------|
| 2 mm | ✓ | | 8 mm | ✓ | ✓ | 16 mm | ✓ | |
| 3 mm | ✓ | ✓ | 9 mm | ✓ | | 17 mm | ✓ | |
| 1/8" | ✓ | | 10 mm | ✓ | ✓ | 18 mm | ✓ | |
| 4 mm | ✓ | ✓ | 11 mm | ✓ | | 19 mm | ✓ | ✓ |
| 5 mm | ✓ | ✓ | 12 mm | ✓ | ✓ | 20 mm | ✓ | ✓ |
| 6 mm | ✓ | ✓ | 13 mm | ✓ | ✓ | 24 mm | ✓ | |
| 1/4" | | | 14 mm | ✓ | | 25 mm | ✓ | |
| 7 mm | ✓ | | 15 mm | ✓ | ✓ | 1" | ✓ | |

✓ EX STOCK STEEL: FINISH IS BRONZE PLATED and Varnish
FIXING WASHERS WITH CAPS STAINLESS STEEL AVAILABLE

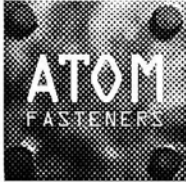
RETAINING STEEL SNAP RING



DIN 7993A

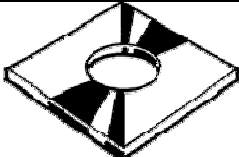
| SHAFT DIA. mm | STEEL | SHAFT DIA. mm | STEEL | SHAFT DIA. mm | STEEL |
|---------------|-------|---------------|-------|---------------|-------|
| 6mm | ✓ | 24mm | ✓ | 40mm | ✓ |
| 8mm | ✓ | 25mm | ✓ | 45mm | ✓ |
| 10mm | ✓ | 26mm | ✓ | 48mm | ✓ |
| 12mm | ✓ | 28mm | ✓ | 50mm | |
| 14mm | ✓ | 30mm | ✓ | 55mm | |
| 16mm | ✓ | 32mm | ✓ | 60mm | |
| 20mm | ✓ | 35mm | ✓ | 105mm | |
| 22mm | ✓ | 38mm | ✓ | 120mm | |

✓ EX STOCK




ATOM FASTENERS LTD


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| SQUARE WASHERS | |  | | | | | | |
|----------------|--|---|---------|-----|-----|-----|-----|-----|
| DIAMETER | | M10 | M12 | M16 | M20 | M24 | M30 | M36 |
| 40 X 40 X 3 | | G | G | | | | | |
| 50 X 50 X 3 | | G | B G 4 6 | G 6 | G 6 | B | | |
| 50 X 50 X 6 | | | G | G | G | | | |
| 60 X 60 X 6 | | | | G | G | | | |
| 80 X 80 X 6 | | | | | G | | | |
| 100 X 100 X 5 | | | | | | G | | |


EX STOCK: B = BLACK Z= CLEAR ZINC PLATED 4 = STAINLESS STEEL A2 (304) 6 = STAINLESS STEEL A4 (316)

| HIGH STRENGTH STRUCTURAL WASHERS | |  | | | | | | | |
|----------------------------------|--|---|-----|-----|-----|-----|-----|-----|-----|
| EN 14399-6 | | | | | | | | | |
| DIAMETER | | M12 | M16 | M20 | M22 | M24 | M27 | M30 | M36 |
| Outside Diameter | | 24 | 30 | 37 | 39 | 44 | 50 | 56 | 66 |
| Thickness | | 3 | 4 | 4 | 4 | 4 | 5 | 5 | 6 |
| Steel 10.9 | | G | G | G | G | G | G | G | G |
| Steel C45 | | B | B | B | B | B | B | B | B |

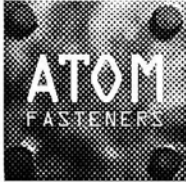
EX STOCK: B = BLACK, G = HOT DIP GALV,

| HIGH STRENGTH STRUCTURAL WASHERS | |  | | | | | | | |
|----------------------------------|--|---|-----|-----|-----|-----|-----|-----|-----|
| AS 1252:1996 | | | | | | | | | |
| DIAMETER | | M12 | M16 | M20 | M22 | M24 | M27 | M30 | M36 |
| Outside Diameter max. | | 27 | 34 | 39 | 44 | 50 | 56 | 60 | 72 |
| Thickness | | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 |
| Steel C26-C45 | | G | G | G | G | G | G | G | G |

EX STOCK: G = HOT DIP GALV,

| TAPER WASHERS | |  | | | | | | |
|---------------|--|---|-----|-----|-----|-----|-----|-----|
| DIAMETER | | M10 | M12 | M16 | M20 | M24 | M30 | M36 |
| 5 DEGREE | | G | G | G | G | | | |
| 8 DEGREE | | TO ORDER | | | | | | |

EX STOCK: G = HOT DIP GALV,



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| ROOFING SEAL WASHERS | | | | | | | Image Not Available | |
|--|--|-----|-----|-----|--|--|---------------------|--|
| DIAMETER | | 12G | 14G | 16G | | | | |
| NEOPRENE SEALING WASHER 14G FOR HWF EPDM | | | ✓ | | | | | |
| ROOFING SEALING WASHER 16mm Bonded | | ✓ | ✓ | | | | | |
| ROOFING SEALING WASHER 25mm Embosed Aluminum | | | ✓ | ✓ | | | | |
| PLATE CYCLONE WASH TRIM/ORB | | | ✓ | | | | | |
| CYCLONE WASH SEAL 14G x 30 EPDM | | | ✓ | | | | | |

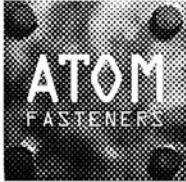
EX STOCK = ✓

| NEO WASHERS | | | | | | | | Image Not Available |
|--------------------|--|-----|-----|-----|-----|-----|-----|---------------------|
| DIAMETER | | M3 | M8 | M10 | M12 | M16 | M20 | 1/4" |
| OD. Max | | 19 | 17 | 21 | 24 | 30 | 37 | 1.1/4" |
| Thickness | | 1.5 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 3.0 |
| Neo | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

EX STOCK: = ✓

| SHIM RINGS | | | |  |
|---|----|-----------|-------------|---|
| DIN 988 STEEL 2 K 50 ACC. DIN 1624 | | | | |
| SIZE | OD | THICKNESS | Self Colour | |
| 8 | 14 | 0.3 | ✓ | |
| 8 | 14 | 0.5 | ✓ | |
| 8 | 20 | 0.1 | ✓ | |
| 10 | 22 | 0.1 | ✓ | |
| 12 | 24 | 0.1 | ✓ | |
| 14 | 26 | 0.1 | ✓ | |
| 16 | 28 | 0.1 | ✓ | |
| 18 | 30 | 0.1 | ✓ | |
| 20 | 32 | 0.1 | ✓ | |
| 22 | 32 | 0.1 | ✓ | |
| 24 | 36 | 0.1 | ✓ | |

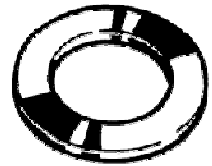
EX STOCK: = ✓



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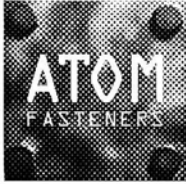
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GASKET SEAL WASHERS ANNEALED DIN 7603 & DIN 7603A




| SIZE | OD | THICKNESS | Aluminum | Cooper |
|------|----|-----------|----------|--------|
| 5 | 10 | 1 | | ✓ |
| 6 | 10 | 1 | ✓ | ✓ |
| 7 | 10 | 1 | | ✓ |
| 8 | 12 | 1 | | ✓ |
| 8 | 14 | 1 | ✓ | |
| 9 | 14 | 1 | | ✓ |
| 10 | 14 | 1 | ✓ | |
| 10 | 16 | 1 | | ✓ |
| 10.5 | 17 | 1.5 | | ✓ |
| 11 | 17 | 1.5 | | ✓ |
| 12 | 16 | 1.5 | | ✓ |
| 12 | 18 | 1.5 | ✓ | |
| 12.5 | 20 | 1.5 | | ✓ |
| 13 | 18 | 1.0 | | ✓ |
| 14 | 18 | 1.0 | | ✓ |
| 14 | 20 | 1.5 | | ✓ |
| 16 | 22 | 1.5 | ✓ | |
| 16 | 22 | 2.0 | | ✓ |
| 16.5 | 24 | 2.0 | | ✓ |
| 17 | 24 | 2.0 | | ✓ |
| 17.5 | 25 | 2.0 | | ✓ |
| 18 | 24 | 2.0 | | ✓ |
| 20 | 24 | 2.0 | | ✓ |
| 22 | 26 | 2.0 | | ✓ |
| 24 | 30 | 2.0 | | ✓ |
| 26 | 32 | 2.0 | | ✓ |
| 26 | 33 | 2.0 | | ✓ |
| 28 | 35 | 2.0 | | ✓ |
| 30 | 38 | 2.0 | | ✓ |
| 32 | 40 | 2.0 | | ✓ |
| 35 | 45 | 2.0 | | ✓ |

EX STOCK: = ✓




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| HARDENED WASHERS | |  | | | | | | |
|-------------------------|---------|---|--------|--------|-------|-------|---------|--------|
| F436 | | | | | | | | |
| DIAMETER | | 1/4" | 5/16" | 3/8" | 7/16" | 1/2" | 5/8" | 3/4" |
| Outside Dia. | Max | 5/8" | 11/16" | 13/16" | 7/8" | 1" | 1.5/16" | 1.1/2" |
| Thickness | Nominal | 0.08 | 0.08 | 0.08 | 0.08 | 0.177 | 0.177 | 0.177 |
| Steel | | B Y | B Y | B Y | B Y | B Y | B Y | B Y |


| DIAMETER | | 1" | 1.1/8" | 1.1/4" | 1.1/2" | 1.3/4" | 2" | 3" |
|--------------|---------|-------|--------|--------|--------|---------|----------|---------|
| Outside Dia. | Max | 2" | 1.1/4" | 2.1/2" | 3" | 3.7/16" | 3.13/16" | 5.9/16" |
| Thickness | Nominal | 0.177 | 0.177 | 0.177 | 0.177 | 0.280 | 0.280 | 0.340 |
| Steel | | B Y | B Y | B Y | B Y | B Y | B Y | B Y |

EX STOCK Y = ZINC YELLOW

| HARDENED WASHERS | |  | | | | | | |
|-------------------------|---------|--|--------|--------|-------|-------|---------|--------|
| F436 EXTRA THICK | | | | | | | | |
| DIAMETER | | 1/4" | 5/16" | 3/8" | 7/16" | 1/2" | 5/8" | 3/4" |
| Outside Dia. | Max | 5/8" | 11/16" | 13/16" | 7/8" | 1" | 1.5/16" | 1.1/2" |
| Thickness | Nominal | 3/32" | 3/32" | 1/8" | 5/32" | 3/16" | 3/16" | 3/16" |
| Steel | | Y | Y | Y | Y | Y | Y | Y |

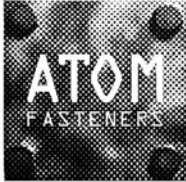
| DIAMETER | | 1" | 1.1/8" | 1.1/4" | 1.1/2" | | | |
|--------------|---------|------|--------|--------|--------|--|--|--|
| Outside Dia. | Max | 2" | 1.1/4" | 2.1/2" | 3" | | | |
| Thickness | Nominal | 1/4" | 5/16" | 5/16" | 5/16" | | | |
| Steel | | Y | Y | Y | Y | | | |

EX STOCK Y = ZINC YELLOW

| HARDENED WASHERS | |  | | | | | | |
|---------------------------|---------|---|-----|-----|-----|-----|-----|-----|
| DIN 125-1A (F436M) | | | | | | | | |
| DIAMETER | | M6 | M8 | M10 | M12 | M14 | M16 | M18 |
| Outside Dia. | Max | 12 | 16 | 20 | 24 | 28 | 30 | 34 |
| Thickness | Nominal | 1.6 | 1.6 | 2.0 | 2.5 | 2.5 | 3.0 | 3.0 |
| Steel | | B Y | B Y | B Y | B Y | B Y | B Y | B Y |

| DIAMETER | | M20 | M22 | M24 | M27 | M30 | M33 | M36 |
|--------------|---------|-----|-----|-----|-----|-----|-----|-----|
| Outside Dia. | Max | 37 | 39 | 44 | 50 | 56 | 60 | 66 |
| Thickness | Nominal | 3.0 | 3.0 | 4.0 | 4.0 | 4.0 | 5.0 | 5.0 |
| Steel | | B Y | B Y | B Y | B Y | B Y | B Y | B Y |

EX STOCK Y = ZINC YELLOW



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FENDER WASHERS

METRIC



| DIAMETER | | M4 | M5 | M5 | M5 | M5 | M5 | M6 |
|--------------|---------|-----|-----|-----|-----|-----|-----|-----|
| Outside Dia. | Max | 25 | 20 | 22 | 25 | 25 | 32 | 20 |
| Thickness | Nominal | 1.6 | 1.3 | 1.6 | 1.2 | 1.6 | 1.6 | 1.6 |
| Steel | | Z | 4 | Z 6 | 4 | Z | Z 6 | 4 |

| DIAMETER | | M6 | M6 | M6 | M6 | M6 | M6 | M8 |
|--------------|---------|-----|-----|-----|-----|-----|-----|-----|
| Outside Dia. | Max | 22 | 22 | 25 | 25 | 32 | 32 | 22 |
| Thickness | Nominal | 1.2 | 1.6 | 1.5 | 1.6 | 1.5 | 1.6 | 1.2 |
| Steel | | Z 4 | 4 | 4 | Z 6 | 6 | Z | 6 |

| DIAMETER | | M8 | M8 | M8 | M8 | M10 | M10 | M10 |
|--------------|---------|-----|-----|-----|-------|-----|-----|-----|
| Outside Dia. | Max | 22 | 25 | 25 | 32 | 25 | 25 | 32 |
| Thickness | Nominal | 1.6 | 1.2 | 1.6 | 1.6 | 1.5 | 1.6 | 1.5 |
| Steel | | Z 4 | 4 6 | Z | Z 4 6 | 6 | Z | 4 |

| DIAMETER | | M10 | M12 | M12 | | | | |
|--------------|---------|-----|-----|-------|--|--|--|--|
| Outside Dia. | Max | 32 | 31 | 32 | | | | |
| Thickness | Nominal | 1.6 | 1.5 | 1.6 | | | | |
| Steel | | Z 6 | 4 | Z 4 6 | | | | |

EX STOCK: B = BLACK Z= CLEAR ZINC PLATED Y = ZINC YELLOW 4 = STAINLESS STEEL A2 (304) 6 = STAINLESS STEEL A4 (316)

FENDER WASHERS

IMPERIAL



| DIAMETER | | 1/4" | 5/16" | 3/8" | 1/2" | | | |
|--------------|---------|--------|--------|--------|--------|--|--|--|
| Outside Dia. | Max | 1.1/4" | 1.1/4" | 1.1/4" | 1.1/4" | | | |
| Thickness | Nominal | 1.6 | 1.6 | 1.6 | 1.6 | | | |
| Steel | | Z | Z | Z | Z | | | |

EX STOCK: Z= CLEAR ZINC PLATED