

WEDGE LOCKING WASHERS & NUTS

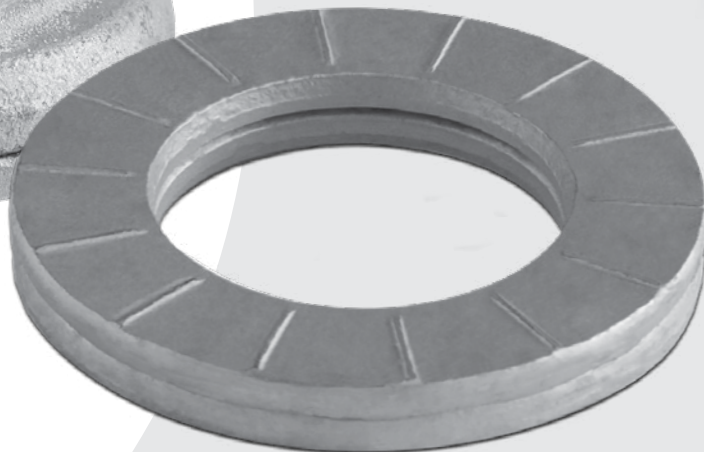
Superior Locking Through Geometry™

Outperforms Conventional
Lock Washers & Nuts



TECSERIES™
WASHERS

DISC-LOCK™
WASHERS & NUTS



Price Leader in Wedge Locking Technology


huyett.com | 785-392-3017 | sales@huyett.com

Distributed
by



INTRODUCTION

TABLE OF CONTENTS

| | |
|--|----|
|  TEC SERIES™ Wedge Locking Washers | 6 |
| DISC-LOCK™ Wedge Locking Washers..... | 12 |
| DISC-LOCK™ Wedge Locking Safety Wheel Nuts | 14 |

PROVEN APPLICATIONS



General Machinery Manufacturing

- In safety-critical environments, guaranteeing joints do not fail is paramount.
- Performing extensive maintenance and performance checks can be costly and inconvenient.



Agriculture & Construction Equipment

- Corrective maintenance can entail disassembly and reassembly of complex machinery.
- Machine down-time can greatly reduce work output.



Gas & Oil

- Safety-critical, harsh environments.
- Joints can fail in remote, hard-to-reach, locations and fixing joints can be dangerous and costly.



Power Generation

- Windy conditions; joints can experience severe vibration.
- Joints can be in hard-to-reach locations and down-time can be costly.

Huyett is a Minneapolis, KS, based ISO certified manufacturer and master distributor of industrial fasteners & components, and premium lifting hardware. The Company is a leading innovator of products and services geared to support industrial distributors in the fastener and power transmission sectors.



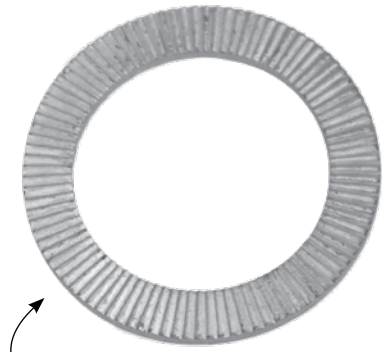
Visit huyett.com for broad selection of hard-to-find parts in low minimums, at great prices, with easy ordering and the best service in the industry.

Disc-Lock & TEC Series products outperform conventional, split-ring, and other style washers in a wide variety of high stress, corrosive, and vibration-sensitive applications including:

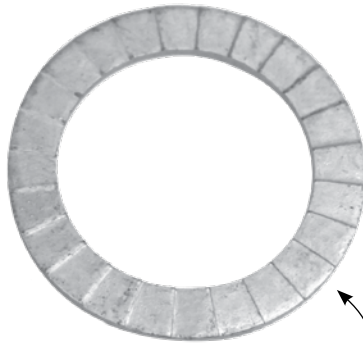
- Agriculture
- Automotive
- Construction
- Heavy Rail
- Logging
- Marine
- Military
- Mining
- Gas & Oil
- Solar
- Wind
- Waste Management

HOW WEDGE LOCKING WASHERS WORK

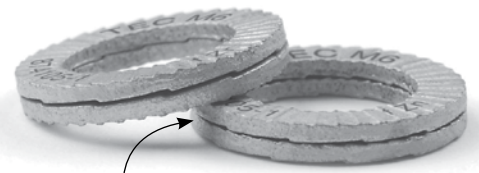
Disc-Lock™ & TEC Series™ Wedge Locking Washers consist of two washer-shaped pieces with seizing ridges on one side and cams on the other. The cam sides are mated together with a mild adhesive and then installed between the nut or bolt and the joint material to secure using tension, not friction like traditional washers.



Seizing Ridges –
Outer surface contact
with nut and joint material

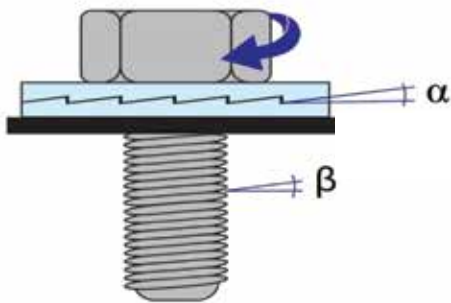


Cams – Inner surface
mated to second washer
with a mild adhesive

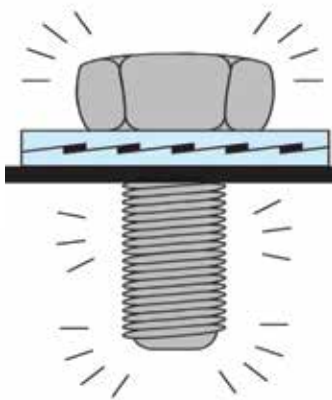


Preassembled
glued pairs

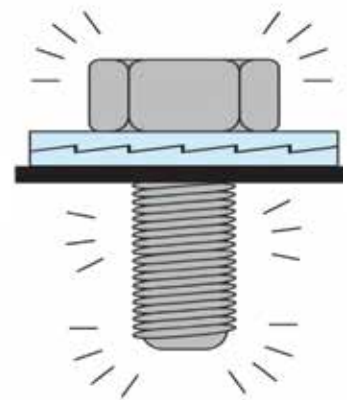
AS INSTALLED



UNDER STRAIN



RECOVERY



$$\alpha > \beta$$

α = angle of mating cams

β = angle of the pitch on threads

- When exposed to load or vibration, the bolt or nut will attempt to loosen
- Radial teeth seat to the base material, so movement in loosening direction is forced between cams
- **Cam angle is greater than thread pitch, so a wedge effect is created by cams, preventing bolt or nut from rotating loose**

Wedge locking washers are NOT recommended for mating surfaces that are not locked in place, are harder than the washers, in soft base material, or in non-preloaded joints.

WHY USE WEDGE LOCKING TECHNOLOGY



Safety and Security When it Matters Most

WHY IS TENSION SAFER?

Rely on tension to overcome loosening of joints

Superior Locking Through Geometry™

Standard industry options attempt to deliver locking through friction or adhesion. Disc-Lock™ & TEC Series™ products outperform conventional, split-ring, and other style washers by mechanically creating increased tension when the fastener tries to loosen. The result is a safe, highly effective product that offers superior locking protection in a wide variety of high stress, corrosive, and vibration-sensitive applications.

Friction-Based Options



Split Locking Washers



Nylon Inserts



Thread Deformation
(Prevailing Torque)

Adhesion-Based Options



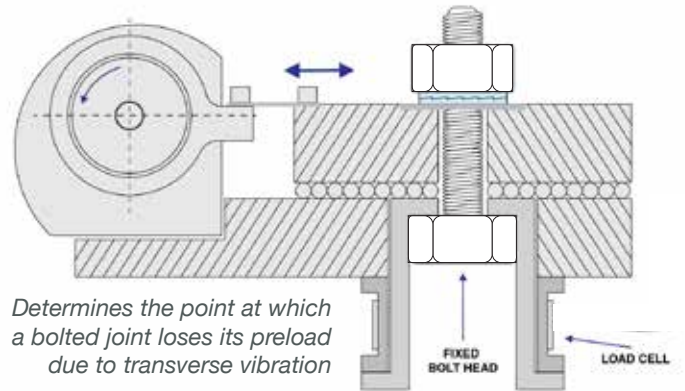
Adhesives/
Epoxies



Patches on
Threads

PROVEN RESULTS - JUNKER TESTING

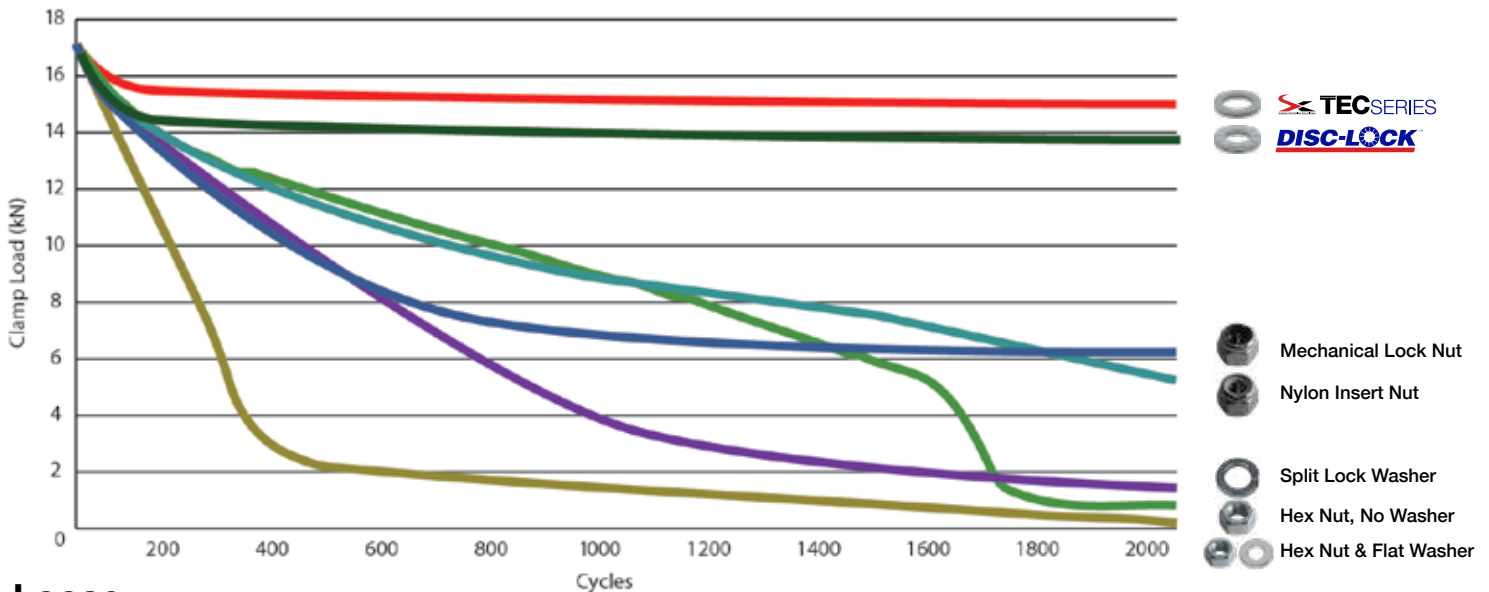
Disc-Lock™ & TEC Series™ wedge locking washers and nuts have been tested on a Junker Vibration Machine. The Junker Test, considered the most severe vibration test for bolted joints, is used to determine the point at which a bolted joint loses its preload when subjected to shear loading due to transverse vibration. Disc-Lock Wedge Locking Washers and nuts have been tested in accordance with DIN 65151.



Junker Test Results: Wedge Locking Washers vs. Competing Alternatives

Tight

All options were tested with 1.0 MM amplitude at 12.5 Hz for 2000 cycles.



Loose

When comparing to alternatives, Disc-Lock & TEC Series washers outperform by creating a secure and reliable joint that is maintained under severe vibration conditions.

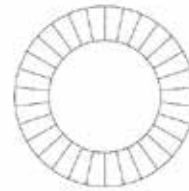
HEAVY DUTY WEDGE LOCKING WASHERS

TECSERIES™
REUSABLE

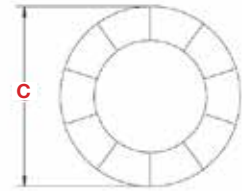


Come standard as preassembled glued pairs for proper alignment and installation

SEIZING RIDGES ON
OUTER SURFACE



CAMS ON INNER
SURFACE



TECSERIES
for use in **REUSABLE** applications

FEATURES AND BENEFITS

- Heavy duty, self-locking design
- For use with bolts up to Class 10.9, Grade 8
- Available in sizes from #5 (M3) to 5-1/8" (M130)
- Available in SCM435 Alloy Steel, 316L Stainless Steel, and 254 SMO Stainless Steel
- Provided in preassembled glued pairs
- Easy to install with standard tools
- No retightening needed after installation
- Cost-effective for use in **REUSABLE** applications
- Vibration proof according to MIL-STD-1312-7

Same Great Quality – Lower Price
Than Other Brands in the Market

INSTALLATION

- To install the TEC Series Wedge Locking Washer, place the preassembled pair between the nut or bolt and the joint material. If application is in a through hole, two pairs of washers are required.
- As the nut or bolt is tightened, one half of the washer pair will be seated to the joint material and the other half will be seated to the nut or bolt.
- Install TEC Series Wedge Locking Washers using standard tools according to TEC Series Torque Guidelines. Retightening is not needed.
- The use of lubricants is highly recommended when installing TEC Series Wedge Locking Washers. A high quality lubricant designed to prevent seizing will reduce friction during installation and improve the consistency of clamp load in joints.

Preassembled
glued pairs

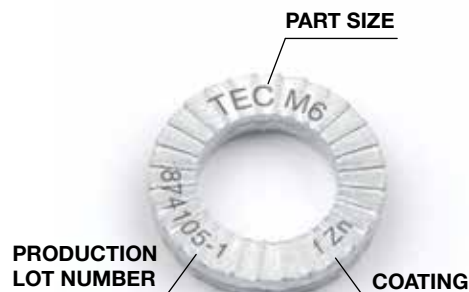


QUALITY AND TRACEABILITY

TEC Series Wedge Locking Washers are thoroughly tested in several stages of production to ensure a high level of quality customers have come to expect. Each washer is laser etched with a production lot number, part size, and coating to enable full traceability and easy identification.



TEC Series Wedge Locking Washers are manufactured in an ISO-certified facility and are RoHS compliant



REMOVAL AND REUSE

Removing TEC Series Wedge Locking Washers requires no special tools or procedure. Simply loosen the joint in the normal method and check the washer to ensure cam faces disengage.

While TEC Series Wedge Locking Washers are usually reusable, washers should always be inspected for deformation or excessive wear before reuse. If washers appear deformed or heavily worn, discard and use a new pair.

DIMENSIONAL TOLERANCES

| INCH | | | | | | | | METRIC | | | | | | | |
|---------------------|-----------|-----------|----------------------|-----------|------------|----------------|-----------|---------------------|-----------|------------|----------------------|-----------|------------|----------------|-----------|
| INSIDE DIAMETER (A) | | | OUTSIDE DIAMETER (C) | | | THICKNESS (EE) | | INSIDE DIAMETER (A) | | | OUTSIDE DIAMETER (C) | | | THICKNESS (EE) | |
| M3 - M8 | M10 - M42 | M45 - M72 | M3 - M24 | M27 - M42 | M45 - M72 | M3 - M42 | M45 - M72 | M3 - M8 | M10 - M42 | M45 - M72 | M3 - M24 | M27 - M42 | M45 - M72 | M3 - M42 | M45 - M72 |
| ±0.004" | ±0.008" | +0.02/-0" | ±0.008" | ±0.012" | +0/-0.080" | ±0.010" | ±0.030" | ±0.1 mm | ±0.2 mm | +0.5/-0 mm | ±0.2 mm | ±0.3 mm | +0/-2.0 mm | ±0.25 mm | ±0.75 mm |
| | | | | | | | | | | | | | | | |



HEAVY DUTY WEDGE LOCKING WASHERS

TECSERIES™
REUSABLE

ALLOY STEEL WASHERS - ZINC FLAKE PLATING

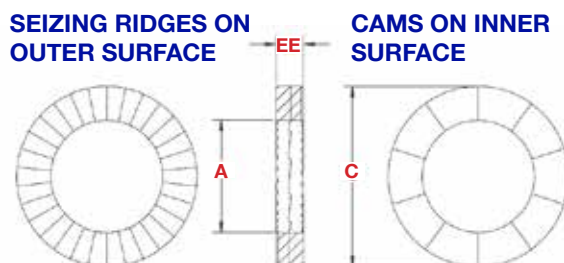
Material: SCM435 Alloy Steel, or equivalent
Heat Treatment: Through Hardened
Surface Coating: Delta Protekt® KL100 and VH302GZ

| PART NUMBER | BOLT SIZE | | STANDARD DIMENSIONS (INCH) | | | CROSS REFERENCE | |
|-------------|-----------|--------|----------------------------|----------------------|----------------|-----------------|-------------|
| | INCH | METRIC | INSIDE DIAMETER (A) | OUTSIDE DIAMETER (C) | THICKNESS (EE) | NORD-LOCK® | HEICO-LOCK® |
| TEC-M3 | #5 | M3 | .134" | .276" | .071" | NL3 | HLS-3 |
| TEC-M3.5 | #6 | M3.5 | .154" | .299" | .071" | NL3,5 | HLS-3.5 |
| TEC-M4 | #8 | M4 | .173" | .299" | .071" | HNL4 | HLS-4 |
| TEC-M5 | #10 | M5 | .213" | .354" | .071" | NL5 | HLS-5 |
| TEC-M6 | – | M6 | .256" | .425" | .071" | HL6 | HLS-6 |
| TEC-M8 | 5/16" | M8 | .343" | .531" | .098" | NL8 | HLS-8 |
| TEC-M10 | – | M10 | .421" | .654" | .098" | NL10 | HLS-10 |
| TEC-M11 | 7/16" | M11 | .449" | .728" | .098" | NL11 | HLS-11 |
| TEC-M12 | – | M12 | .512" | .768" | .098" | NL12 | HLS-12 |
| TEC-M14 | 9/16" | M14 | .598" | .906" | .134" | NL14 | HLS-14 |
| TEC-M16 | 5/8" | M16 | .669" | 1.000" | .134" | NL16 | HLS-16 |
| TEC-M18 | – | M18 | .768" | 1.142" | .134" | NL18 | HLS-18 |
| TEC-M20 | – | M20 | .843" | 1.209" | .134" | NL20 | HLS-20 |
| TEC-M22 | 7/8" | M22 | .921" | 1.358" | .134" | NL22 | HLS-22 |
| TEC-M24 | – | M24 | .996" | 1.535" | .134" | NL24 | HLS-24 |
| TEC-M27 | – | M27 | 1.118" | 1.654" | .228" | NL27 | HLS-27 |
| TEC-M30 | 1-1/8" | M30 | 1.236" | 1.850" | .228" | NL30 | HLS-30 |
| TEC-M33 | 1-1/4" | M33 | 1.354" | 1.909" | .228" | NL33 | HLS-33 |
| TEC-M36 | 1-3/8" | M36 | 1.472" | 2.165" | .228" | NL36 | HLS-36 |
| TEC-M39 | 1-1/2" | M39 | 1.591" | 2.303" | .228" | NL39 | HLS-39 |
| TEC-M42 | – | M42 | 1.701" | 2.480" | .228" | NL42 | HLS-42 |
| TEC-M45 | 1-3/4" | M45 | 1.819" | 2.756" | .276" | NL45 | HLS-45 |
| TEC-M48 | – | M48 | 1.953" | 2.953" | .276" | NL48 | HLS-48 |
| TEC-M52 | 2" | M52 | 2.110" | 3.150" | .276" | NL52 | HLS-52 |
| TEC-M56 | 2-1/4" | M56 | 2.327" | 3.346" | .276" | NL56 | HLS-56 |
| TEC-M60 | 2-3/8" | M60 | 2.484" | 3.543" | .276" | NL60 | HLS-60 |
| TEC-M64 | 2-1/2" | M64 | 2.642" | 3.740" | .276" | NL64 | HLS-64 |
| TEC-M68 | 2-5/8" | M68 | 2.799" | 3.937" | .374" | NL68 | HLS-68 |
| TEC-M72 | – | M72 | 2.957" | 4.134" | .374" | NL72 | HLS-72 |
| TEC-M76 | 3" | M76 | 3.114" | 4.331" | .374" | NL76 | HLS-76 |
| TEC-M80 | 3-1/8" | M80 | 3.272" | 4.528" | .374" | NL80 | HLS-80 |
| TEC-M85 | – | M85 | 3.469" | 4.724" | .374" | NL85 | HLS-85 |
| TEC-M90 | 3-1/2" | M90 | 3.638" | 5.118" | .374" | NL90 | HLS-90 |
| TEC-M95 | 3-3/4" | M95 | 3.835" | 5.315" | .374" | NL95 | HLS-95 |
| TEC-M100 | – | M100 | 4.071" | 5.709" | .374" | NL100 | HLS-100 |
| TEC-M105 | 4" | M105 | 4.268" | 5.906" | .374" | NL105 | HLS-105 |
| TEC-M110 | – | M110 | 4.465" | 6.102" | .374" | NL110 | HLS-110 |
| TEC-M115 | 4-1/2" | M115 | 4.661" | 6.496" | .374" | NL115 | HLS-115 |
| TEC-M120 | 4-3/4" | M120 | 4.858" | 6.693" | .374" | NL120 | HLS-120 |
| TEC-M125 | 4-7/8" | M125 | 5.055" | 6.811" | .374" | NL125 | HLS-125 |
| TEC-M130 | 5-1/8" | M130 | 5.252" | 7.008" | .374" | NL130 | HLS-130 |
| INCH | | | | | | | |
| TEC-0250 | 1/4" | – | .283" | .453" | .098" | NL1/4" | HLS-1/4" |
| TEC-0375 | 3/8" | – | .406" | .654" | .098" | NL3/8" | HLS-3/8" |
| TEC-0500 | 1/2" | – | .531" | .768" | .098" | NL1/2" | HLS-1/2" |
| TEC-0750 | 3/4" | – | .787" | 1.209" | .134" | NL3/4" | HLS-3/4" |
| TEC-1000 | 1" | – | 1.098" | 1.535" | .134" | NL1" | HLS-1" |

Weight and thickness of pairs will vary slightly with gauge of metal

MARINE GRADE 316 STAINLESS STEEL WASHERS

Material: 316L Stainless Steel, or equivalent
Heat Treatment: Surface Hardened
Surface Coating: Plain



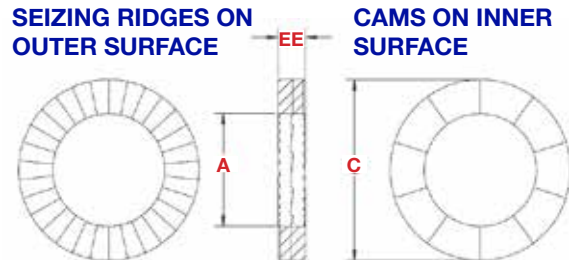
| PART NUMBER | BOLT SIZE | | STANDARD DIMENSIONS (INCH) | | | CROSS REFERENCE | |
|-------------|-----------|--------|----------------------------|----------------------|----------------|-----------------|-------------|
| | INCH | METRIC | INSIDE DIAMETER (A) | OUTSIDE DIAMETER (C) | THICKNESS (EE) | NORD-LOCK® | HEICO-LOCK® |
| TEC-M3SS | #5 | M3 | .134" | .276" | .087" | NL3SS | HLS-3SS |
| TEC-M3.5SS | #6 | M3.5 | .154" | .299" | .087" | NL3.5SS | HLS-3.5SS |
| TEC-M4SS | #8 | M4 | .173" | .299" | .087" | NL4SS | HLS-4SS |
| TEC-M5SS | #10 | M5 | .213" | .354" | .087" | NL5SS | HLS-5SS |
| TEC-M6SS | – | M6 | .256" | .425" | .087" | NL6SS | HLS-6SS |
| TEC-M8SS | 5/16" | M8 | .343" | .531" | .079" | NL8SS | HLS-8SS |
| TEC-M10SS | – | M10 | .421" | .654" | .079" | NL10SS | HLS-10SS |
| TEC-M11SS | 7/16" | M11 | .449" | .728" | .087" | NL11SS | HLS-11SS |
| TEC-M12SS | – | M12 | .512" | .768" | .079" | NL12SS | HLS-12SS |
| TEC-M14SS | 9/16" | M14 | .598" | .906" | .118" | NL14SS | HLS-14SS |
| TEC-M16SS | 5/8" | M16 | .669" | 1.000" | .118" | NL16SS | HLS-16SS |
| TEC-M18SS | – | M18 | .768" | 1.142" | .126" | NL18SS | HLS-18SS |
| TEC-M20SS | – | M20 | .843" | 1.209" | .118" | NL20SS | HLS-20SS |
| TEC-M22SS | 7/8" | M22 | .921" | 1.358" | .126" | NL22SS | HLS-22SS |
| TEC-M24SS | – | M24 | .996" | 1.535" | .126" | NL24SS | HLS-24SS |
| TEC-M27SS | – | M27 | 1.118" | 1.654" | .268" | NL27SS | HLS-27SS |
| TEC-M30SS | 1-1/8" | M30 | 1.236" | 1.850" | .268" | NL30SS | HLS-30SS |
| TEC-M33SS | 1-1/4" | M33 | 1.354" | 1.909" | .268" | NL33SS | HLS-33SS |
| TEC-M36SS | 1-3/8" | M36 | 1.472" | 2.165" | .268" | NL36SS | HLS-36SS |
| TEC-M39SS | 1-1/2" | M39 | 1.591" | 2.303" | .268" | NL39SS | HLS-39SS |
| TEC-M42SS | – | M42 | 1.701" | 2.480" | .268" | NL42SS | HLS-42SS |
| TEC-M45SS | 1-3/4" | M45 | 1.819" | 2.756" | .268" | NL45SS | HLS-45SS |
| TEC-M48SS | 1-7/8" | M48 | 1.953" | 2.953" | .268" | NL48SS | HLS-48SS |
| TEC-M52SS | 2" | M52 | 2.110" | 3.150" | .354" | NL52SS | HLS-52SS |
| TEC-M56SS | 2-1/4" | M56 | 2.327" | 3.346" | .354" | NL56SS | HLS-56SS |
| TEC-M60SS | 2-3/8" | M60 | 2.484" | 3.543" | .354" | NL60SS | HLS-60SS |
| TEC-M64SS | 2-1/2" | M64 | 2.642" | 3.740" | .354" | NL64SS | HLS-64SS |
| TEC-M68SS | 2-5/8" | M68 | 2.799" | 3.937" | .354" | NL68SS | HLS-68SS |
| TEC-M72SS | – | M72 | 2.957" | 4.134" | .354" | NL72SS | HLS-72SS |
| TEC-M76SS | 3" | M76 | 3.114" | 4.331" | .354" | NL76SS | HLS-76SS |
| TEC-M80SS | 3-1/8" | M80 | 3.272" | 4.528" | .354" | NL80SS | HLS-80SS |
| INCH | | | | | | | |
| TEC-0250SS | 1/4" | – | .283" | .453" | .087" | NL1/4"SS | HLS-1/4"SS |
| TEC-0375SS | 3/8" | – | .406" | .654" | .079" | NL3/8"SS | HLS-3/8"SS |
| TEC-0500SS | 1/2" | – | .531" | .768" | .079" | NL1/2"SS | HLS-1/2"SS |
| TEC-0750SS | 3/4" | – | .787" | 1.209" | .126" | NL3/4"SS | HLS-3/4"SS |
| TEC-1000SS | 1" | – | 1.098" | 1.535" | .126" | NL1"SS | HLS-1"SS |

HEAVY DUTY WEDGE LOCKING WASHERS

TECSERIES™
REUSABLE

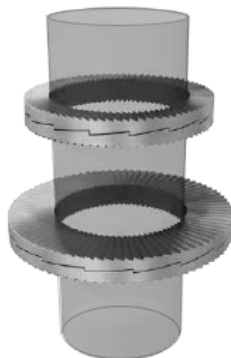
WIDE RIM ALLOY STEEL WASHERS - ZINC FLAKE PLATING

Material: SCM435 Alloy Steel, or equivalent
Heat Treatment: Through Hardened
Surface Coating: Delta Protekt® KL100 and VH302GZ



SAE®
Resemble the SAE Flat
Washer Rim Pattern

| PART NUMBER | BOLT SIZE | | STANDARD DIMENSIONS (INCH) | | | CROSS REFERENCE | |
|-------------|-----------|--------|----------------------------|----------------------|----------------|-----------------|-------------|
| | INCH | METRIC | INSIDE DIAMETER (A) | OUTSIDE DIAMETER (C) | THICKNESS (EE) | NORD-LOCK® | HEICO-LOCK® |
| TEC-M3.5LD | #6 | M3.5 | .154" | .354" | .071" | NL3.5SP | HLB-3.5 |
| TEC-M4LD | #8 | M4 | .173" | .354" | .071" | NL4SP | HLB-4 |
| TEC-M5LD | #10 | M5 | .213" | .425" | .071" | NL5SP | HLB-5 |
| TEC-M6LD | – | M6 | .256" | .531" | .098" | NL6SP | HLB-6 |
| TEC-M8LD | 5/16" | M8 | .343" | .654" | .098" | NL8SP | HLB-8 |
| TEC-M10LD | – | M10 | .421" | .827" | .098" | NL10SP | HLB-10 |
| TEC-M12LD | – | M12 | .512" | 1.000" | .134" | NL12SP | HLB-12 |
| TEC-M14LD | 9/16" | M14 | .598" | 1.209" | .134" | NL14SP | HLB-14 |
| TEC-M16LD | 5/8" | M16 | .669" | 1.209" | .134" | NL16SP | HLB-16 |
| TEC-M18LD | – | M18 | .768" | 1.358" | .134" | NL18SP | HLB-18 |
| TEC-M20LD | – | M20 | .843" | 1.535" | .134" | NL20SP | HLB-20 |
| TEC-M22LD | 7/8" | M22 | .921" | 1.654" | .181" | NL22SP | HLB-22 |
| TEC-M24LD | – | M24 | .996" | 1.909" | .181" | NL24SP | HLB-24 |
| TEC-M27LD | – | M27 | 1.118" | 1.909" | .228" | NL27SP | HLB-27 |
| TEC-M30LD | 1-1/8" | M30 | 1.236" | 2.303" | .260" | ML30SP | HLB-30 |
| TEC-M33LD | 1-1/4" | M33 | 1.354" | 2.303" | .260" | NL33SP | HLB-33 |
| TEC-M36LD | 1-3/8" | M36 | 1.472" | 2.480" | .260" | NL36SP | HLB-36 |
| INCH | | | | | | | |
| TEC-0250LD | 1/4" | – | .283" | .531" | .098" | NL1/4"SP | HLB-1/4" |
| TEC-0375LD | 3/8" | – | .406" | .827" | .098" | NL3/8"SP | HLB-3/8" |
| TEC-0500LD | 1/2" | – | .531" | 1.000" | .134" | NL1/2"SP | HLB-1/2" |
| TEC-0750LD | 3/4" | – | .787" | 1.535" | .134" | NL3/4"SP | HLB-3/4" |
| TEC-1000LD | 1" | – | 1.098" | 1.909" | .181" | NL1"SP | HLB-1" |



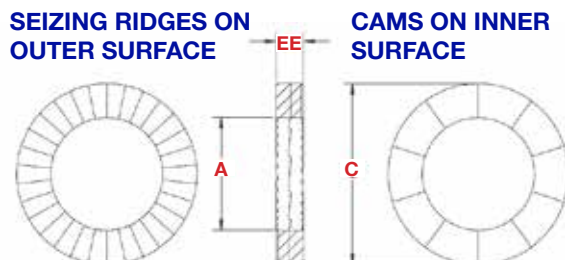
Wedge Locking Washer

Wide Rim Wedge Locking Washer

Resemble the SAE Flat Washer Rim Pattern

WIDE RIM MARINE GRADE 316 STAINLESS STEEL WASHERS

Material: 316L Stainless Steel, or equivalent
Heat Treatment: Surface Hardened
Surface Coating: Plain



SAE
Resemble the SAE Flat Washer Rim Pattern

| PART NUMBER | BOLT SIZE | | STANDARD DIMENSIONS (INCH) | | | CROSS REFERENCE | |
|--------------|-----------|--------|----------------------------|----------------------|----------------|-----------------|-------------|
| | INCH | METRIC | INSIDE DIAMETER (A) | OUTSIDE DIAMETER (C) | THICKNESS (EE) | NORD-LOCK® | HEICO-LOCK® |
| TEC-M3.5LDSS | #6 | M3.5 | .154" | .354" | .087" | NL3.5SPSS | HLB-3.5SS |
| TEC-M4LDSS | #8 | M4 | .173" | .354" | .087" | NL4SPSS | HLB-4SS |
| TEC-M5LDSS | #10 | M5 | .213" | .425" | .087" | NL5SPSS | HLB-5SS |
| TEC-M6LDSS | – | M6 | .256" | .531" | .079" | NL6SPSS | HLB-6SS |
| TEC-M8LDSS | 5/16" | M8 | .343" | .654" | .079" | NL8SPSS | HLB-8SS |
| TEC-M10LDSS | – | M10 | .421" | .827" | .079" | NL10SPSS | HLB-10SS |
| TEC-M12LDSS | – | M12 | .512" | 1.000" | .118" | NL12SPSS | HLB-12SS |
| TEC-M14LDSS | 9/16" | M14 | .598" | 1.209" | .126" | NL14SPSS | HLB-14SS |
| TEC-M16LDSS | 5/8" | M16 | .669" | 1.209" | .126" | NL16SPSS | HLB-16SS |
| TEC-M18LDSS | – | M18 | .768" | 1.358" | .126" | NL18SPSS | HLB-18SS |
| TEC-M20LDSS | – | M20 | .843" | 1.535" | .126" | NL20SPSS | HLB-20SS |
| TEC-M22LDSS | 7/8" | M22 | .921" | 1.654" | .126" | NL22SPSS | HLB-22SS |
| TEC-M24LDSS | – | M24 | .996" | 1.909" | .126" | NL24SPSS | HLB-24SS |
| TEC-M27LDSS | – | M27 | 1.118" | 1.909" | .268" | NL27SPSS | HLB-27SS |
| TEC-M30LDSS | – | M30 | 1.236" | 2.303" | .268" | NL30SPSS | HLB-30SS |
| INCH | | | | | | | |
| TEC-0250LDSS | 1/4" | – | .283" | .531" | .087" | NL1/4"SPSS | HLB-1/4"SS |
| TEC-0375LDSS | 3/8" | – | .406" | .827" | .079" | NL3/8"SPSS | HLB-3/8"SS |
| TEC-0500LDSS | 1/2" | – | .531" | 1.000" | .126" | NL1/2"SPSS | HLB-1/2"SS |
| TEC-0750LDSS | 3/4" | – | .787" | 1.535" | .126" | NL3/4"SPSS | HLB-3/4"SS |
| TEC-1000LDSS | 1" | – | 1.098" | 1.909" | .126" | NL1"SPSS | HLB-1"SS |



TEC Series Wide Rim Washers have a larger outside diameter and are ideal for use in large or slotted hole applications, with soft or painted surfaces, and with flanged bolts and nuts.

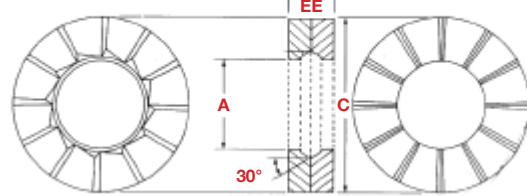
STANDARD DUTY WEDGE LOCKING WASHERS

DISC-LOCK™

SINGLE-USE



Come standard as preassembled glued pairs for proper alignment and installation

**CAMS ON
MATING SURFACE****SEIZING RIDGES ON
OUTER SURFACE****DISC-LOCK™**Economy line for **SINGLE-USE**

FEATURES AND BENEFITS

- Standard duty, self-locking design
- For use with bolts up to Class 10.9, Grade 8
- Available in sizes from #6 (M3) to 1-1/2" (M38) – Other sizes available by special order.
- Available in 1010 Carbon Steel and 316L Stainless Steel
- Carbon Steel washers are case hardened and coated with RoHS-compliant Delta Protekt®
- Provided in preassembled glued pairs
- Easy to install with standard tools. No retightening needed once installed
- Vibration proof according to MIL-STD-1312-7

**Very Cost Effective for
Permanent Applications**

INSTALLATION

- To install the Disc-Lock Wedge Locking Washer, place the preassembled pair of washers between the nut or bolt and the joint material. If application is in a through hole, two pairs of washers are required.
- As the nut is tightened, one half of the wedge locking washer is seated to the joint material and the other to the nut or bolt.
- Wedge locking washers should only be used against flat, relatively smooth metal surfaces.
- If the joint material is not metal, the wedge locking washer may be used by securing the metal plate to the joint material in such a manner that the metal plate will not rotate.
- A torque wrench is not required to install Disc-Lock Wedge Locking Washers.
- An air-gun can be used when installing and removing Disc-Lock Wedge Locking Washers.
- If installed correctly, the wedge locking washer will ensure that the fastener remains secure, and will not require any retightening.



Disc-Lock Wedge Locking Washers are manufactured in an ISO-certified facility and are RoHS compliant



**U.S. DEPARTMENT
OF TRANSPORTATION
FEDERAL RAILROAD
ADMINISTRATION**

APPROVED

CARBON STEEL WASHERS - ZINC FLAKE PLATING

Material: 1010 Carbon Steel, or equivalent
Heat Treatment: Case Hardened
Surface Coating: Delta Protekt® KL100 and VH302GZ

| PART NUMBER | BOLT SIZE | | STANDARD DIMENSIONS (INCH) | | | METRIC DIMENSIONS (MILLIMETERS) | | |
|-------------|-----------|--------|----------------------------|----------------------|----------------|---------------------------------|----------------------|----------------|
| | INCH | METRIC | INSIDE DIAMETER (A) | OUTSIDE DIAMETER (C) | THICKNESS (EE) | INSIDE DIAMETER (A) | OUTSIDE DIAMETER (C) | THICKNESS (EE) |
| DL-M3-0136 | #6 | M3 | .150" | .340" | .080" | 3.81 mm | 8.64 mm | 2.03 mm |
| DL-M4-0164 | #8 | M4 | .175" | .340" | .080" | 4.45 mm | 8.64 mm | 2.03 mm |
| DL-M5-0187 | 3/16" | M5 | .203" | .401" | .080" | 5.15 mm | 10.18 mm | 2.03 mm |
| DL-M6-0250 | 1/4" | M6 | .262" | .495" | .127" | 6.66 mm | 12.57 mm | 3.22 mm |
| DL-M8-0312 | 5/16" | M8 | .326" | .628" | .142" | 8.28 mm | 15.95 mm | 3.60 mm |
| DL-M10-0375 | 3/8" | M10 | .409" | .705" | .160" | 10.38 mm | 17.90 mm | 4.06 mm |
| DL-M11-0437 | 7/16" | M11 | .450" | .880" | .153" | 11.43 mm | 22.35 mm | 3.89 mm |
| DL-M12-0500 | 1/2" | M12 | .510" | .937" | .166" | 12.95 mm | 23.82 mm | 4.22 mm |
| DL-M14-0562 | 9/16" | M14 | .572" | 1.128" | .175" | 14.53 mm | 28.65 mm | 4.45 mm |
| DL-M16-0625 | 5/8" | M16 | .651" | 1.247" | .188" | 16.53 mm | 31.67 mm | 4.79 mm |
| DL-M20-0750 | 3/4" | M20 | .820" | 1.381" | .242" | 20.82 mm | 35.08 mm | 6.15 mm |
| DL-M22-0875 | 7/8" | M22 | .883" | 1.470" | .268" | 22.44 mm | 37.34 mm | 6.80 mm |
| DL-M24-1000 | 1" | M24 | 1.015" | 1.626" | .256" | 25.78 mm | 41.30 mm | 6.50 mm |
| DL-M27-1125 | 1-1/8" | M27 | 1.140" | 1.715" | .240" | 28.96 mm | 43.56 mm | 6.10 mm |
| DL-M30-1250 | 1-1/4" | M30 | 1.275" | 1.875" | .265" | 32.39 mm | 47.63 mm | 6.73 mm |
| DL-M36-1375 | 1-3/8" | M36 | 1.430" | 2.196" | .230" | 36.32 mm | 55.78 mm | 5.84 mm |
| DL-M38-1500 | 1-1/2" | M38 | 1.523" | 2.196" | .230" | 38.68 mm | 55.78 mm | 5.84 mm |

Weight and thickness of pairs will vary slightly with gauge of metal

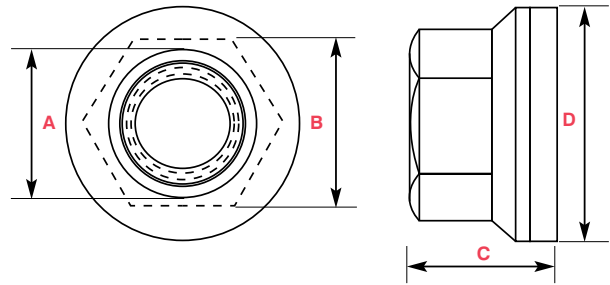
MARINE GRADE 316 STAINLESS STEEL WASHERS

Material: 316L Stainless Steel, or equivalent
Heat Treatment: Surface Hardened
Surface Coating: Plain

| PART NUMBER | BOLT SIZE | | STANDARD DIMENSIONS (INCH) | | | METRIC DIMENSIONS (MILLIMETERS) | | |
|---------------|-----------|--------|----------------------------|----------------------|----------------|---------------------------------|----------------------|----------------|
| | INCH | METRIC | INSIDE DIAMETER (A) | OUTSIDE DIAMETER (C) | THICKNESS (EE) | INSIDE DIAMETER (A) | OUTSIDE DIAMETER (C) | THICKNESS (EE) |
| DL-M6-0250SS | 1/4" | M6 | .262" | .495" | .101" | 6.66 mm | 12.57 mm | 2.56 mm |
| DL-M8-0312SS | 5/16" | M8 | .326" | .628" | .119" | 8.28 mm | 15.95 mm | 3.02 mm |
| DL-M10-0375SS | 3/8" | M10 | .409" | .705" | .135" | 10.38 mm | 17.90 mm | 3.40 mm |
| DL-M11-0437SS | 7/16" | M11 | .450" | .880" | .135" | 11.43 mm | 22.35 mm | 3.33 mm |
| DL-M12-0500SS | 1/2" | M12 | .510" | .937" | .136" | 12.95 mm | 23.82 mm | 3.45 mm |
| DL-M14-0562SS | 9/16" | M14 | .572" | 1.128" | .127" | 14.53 mm | 28.65 mm | 3.23 mm |
| DL-M16-0625SS | 5/8" | M16 | .651" | 1.247" | .134" | 16.53 mm | 31.67 mm | 3.40 mm |
| DL-M20-0750SS | 3/4" | M20 | .820" | 1.381" | .183" | 20.82 mm | 35.08 mm | 4.65 mm |
| DL-M22-0875SS | 7/8" | M22 | .883" | 1.470" | .240" | 22.44 mm | 37.34 mm | 6.10 mm |
| DL-M24-1000SS | 1" | M24 | 1.015" | 1.626" | .240" | 25.78 mm | 41.30 mm | 6.10 mm |

WEDGE LOCKING SAFETY WHEEL NUTS

DISC-LOCK™
SINGLE-USE



FEATURES AND BENEFITS

- Patented heavy duty, self-locking design
- Can be used with bolts up to Class 8.8, Grade 5
- One-piece assembly
- No washer required
- Coated in RoHS compliant GEOMET® 321, providing protection of 720 hours in salt spray testing
- Easy to install with standard tools
- Easy to remove
- No retightening needed once installed
- Vibration proof according to MIL-STD-1312-7

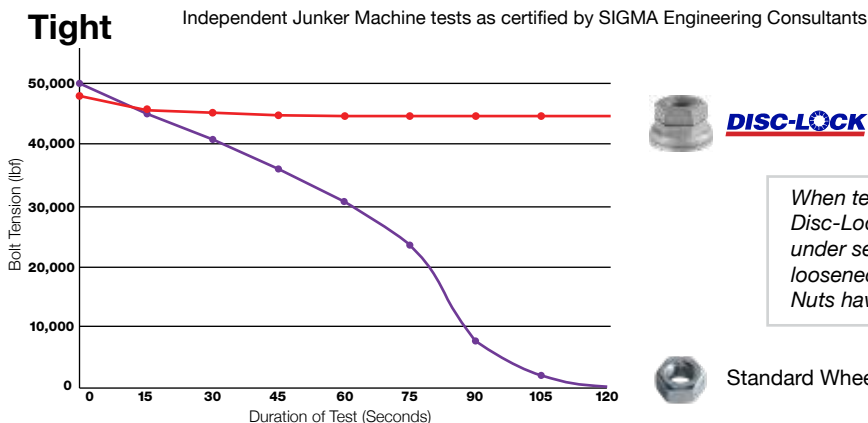
Same Great Quality – Lower Price
Than Other Brands in the Market



Disc-Lock Wedge Locking Nuts are manufactured in an ISO-certified facility and are RoHS compliant

PROVEN RESULTS - JUNKER TESTING

Junker Test Results: Disc-Lock Wedge Locking Nuts



DISC-LOCK™ Wedge Locking Safety Wheel Nut, 515 lbf.ft (698 Nm)

When tested against a standard wheel nut using the Junker Test, Disc-Lock Wedge Locking Safety Wheel Nuts remained secure under severe vibration conditions, while standard wheel nuts loosened significantly. Disc-Lock Wedge Locking Safety Wheel Nuts have been tested in accordance with DIN 65151.



Standard Wheel Nut, BSF, 515 lbf.ft (698 Nm)

Loose

THREE-PIECE WEDGE LOCKING SAFETY WHEEL NUT



| PART NUMBER | SIZE | | | | CROSS REFERENCE | |
|-------------------|------------|------------------------|------------|---------------------|-----------------|-------------|
| | THREAD (A) | WIDTH ACROSS FLATS (B) | HEIGHT (C) | FLANGE DIAMETER (D) | NORD-LOCK® | HEICO-LOCK® |
| DL-LN-SW-M22X1.5G | M22 | 38 mm | 34 mm | 52.0 mm | 1632 | HLM-22x1.5 |

Coated in GEOMET® 321

SAFETY WHEEL NUT



Disc-Lock's Three-Piece Wedge Locking Nut in size M22 – our **Safety Wheel Nut** – is specifically designed to prevent wheel loss from commercial vehicles such as trucks, trailers and buses. They have been proven to provide better joint protection than that of standard wheel nuts. The combination of lateral, bending forces on wheels due to cornering, and torsional forces due to braking and acceleration cause Disc-Lock Safety Wheel Nuts to lock, maintaining clamp force.

Disc-Lock's Safety Wheel Nut consistently performs with Class 8.8, Grade 5 bolts. It is easy to install and remove. It is installed in exactly the same way as a standard wheel nut. Place the socket over the aligned faces of the hexagon nut and hexagon flanged washer and tighten or loosen.

Refer to axle manufacturer's specifications for torque settings.



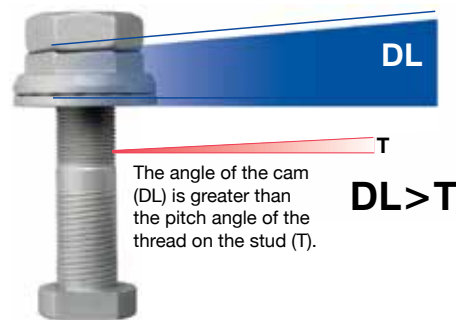
To install or remove push socket on to fully cover both hexes of nut and flanged washer

THREE-PIECE LOCKING NUTS



The Disc-Lock Three-Piece Wedge Locking Safety Wheel Nut consists of three components:

- 1) Nut
- 2) Hexagon-flanged Washer
- 3) Flat-faced Cup Washer



The top two sections (1 & 2) are a hexagonal nut and a hexagonal flanged washer with interlocking cams. When subjected to shock or vibration, the interlocking cams of the Disc-Lock Wedge Locking Safety Wheel Nut attempt to rise against each other.

Because the angle of the cam is greater than the pitch angle of the thread on the stud, a wedging action takes place and the Disc-Lock Wedge Locking Safety Wheel Nut locks and will not come loose, maintaining clamp load and protecting the joint.



**Proudly Serving Distributors
Since 1899**