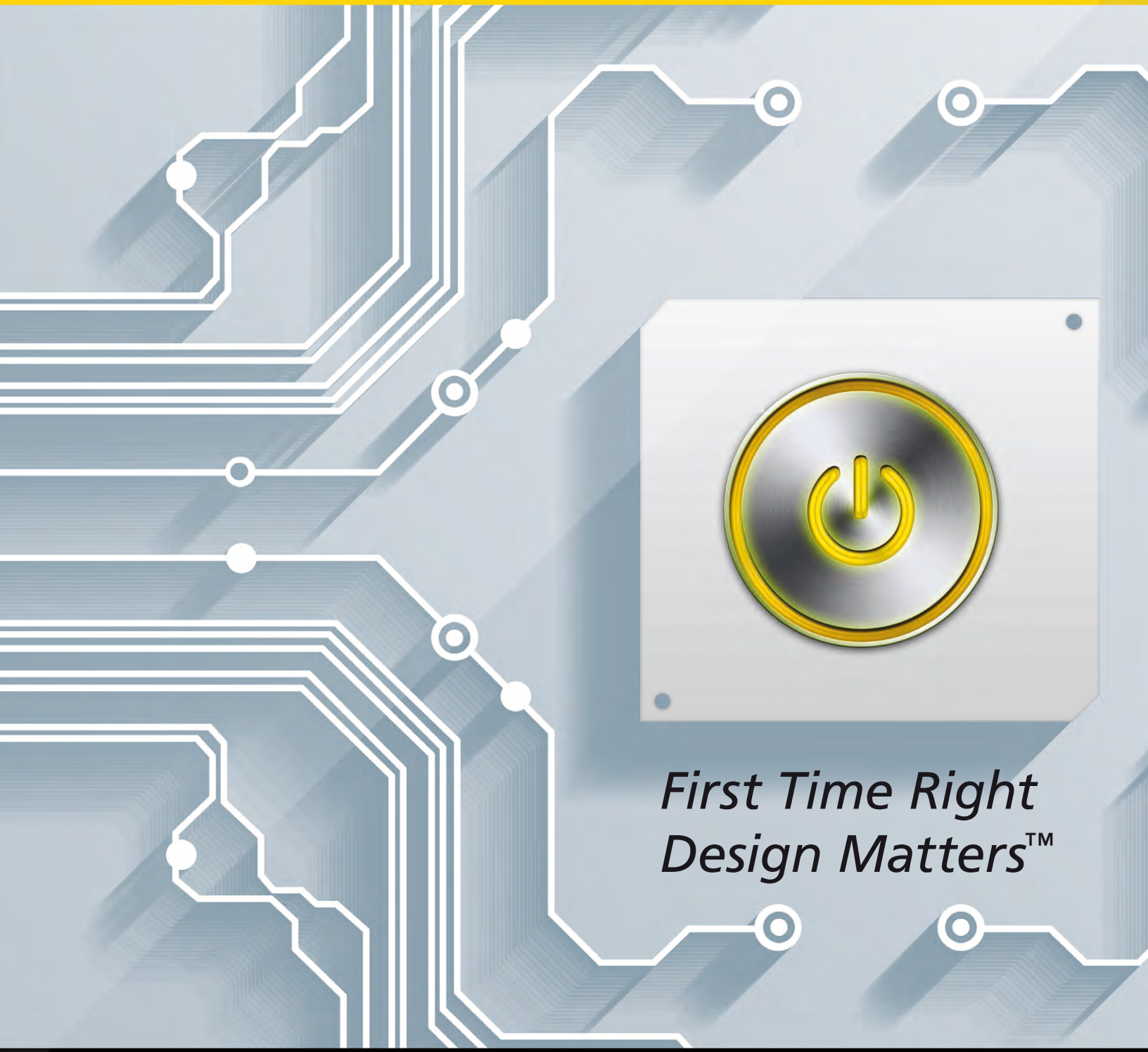
STANLEY®
Engineered Fastening

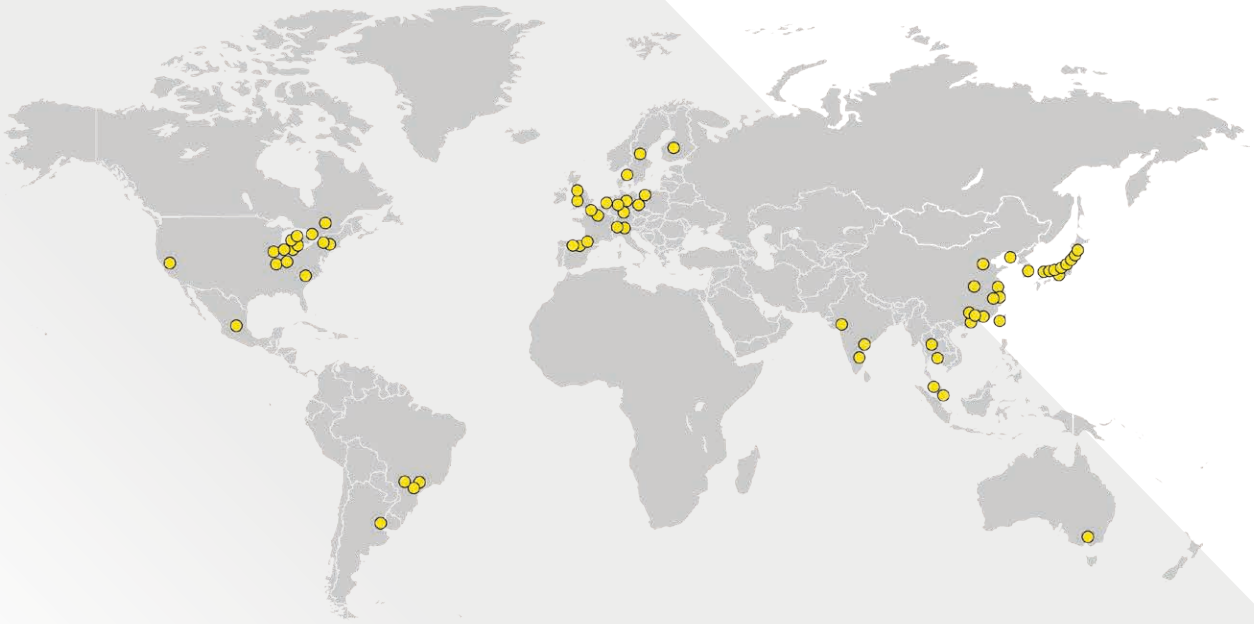


First Time Right
Design Matters™

Electronics Engineered Standards Program

Precision Mechanical Solutions

globalpresence/



ourbrand/

STANLEY Engineered Fastening, a Stanley Black & Decker Inc. company is a global leader in the design, manufacture and supply of innovative fasteners and installation systems.

STANLEY Engineered Fastening's Global Electronics Group is a specialist in micro-mechanical fastening solutions, from miniature threaded fasteners, inserts and standoffs, to performance coatings and cosmetic finishes. We create the standards and innovations that enable cost effective, enhanced product performance in consumer electronics devices, telecommunications and networking equipment.

Stanley Black & Decker, an S&P 500 company, is a diversified global provider of hand tools, power tools and related accessories, mechanical access solutions and electronic security solutions, engineered fastening systems, infrastructure solutions and more.

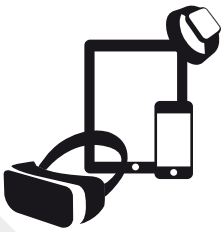
Spiralock® POP® Avdel® Dodge®

Assembly Technologies GRIPCO® HeliCoil® NPR®

TUCKER® WARREN® MASTERFIX®

contents/ electronicStandards

applicationkey/



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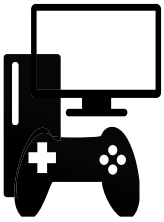
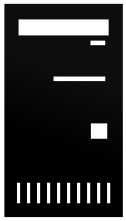
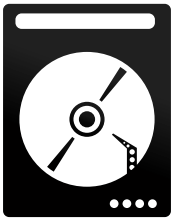


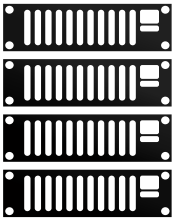
HOME MEDIA



COMPUTING



STORAGE



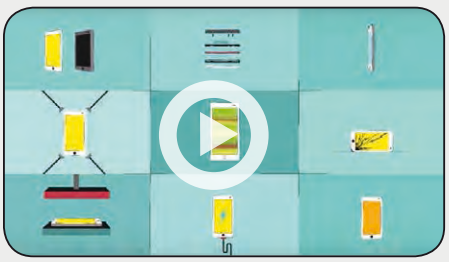
ENCLOSURES

AUTO ELECTRONICS

Look for the application key at the bottom of each page for an indication of the typical markets where products are applied. Follow the demo links to view product installation animations or click on any part number to access 2D prints and 3D CAD models for download.

If you have application questions for any of the products in the STANLEY Engineered Fastening portfolio please feel free to CONTACT US.

90secondsvideo/



Achieve first time right designs with fasteners for todays electronics form factor.
Please take a moment to watch this short video about our Electronics Engineered Standards on
www.stanleyengineeredfastening.com/industries/electronics

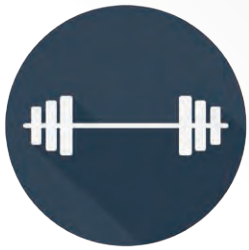
UP TO 12% LIGHTER THAN STANDARD PAN HEAD SCREWS

ULTRA LOW PROFILE HEAD

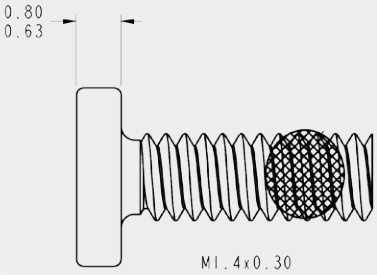
/ BEST IN-CLASS PROFILE
/ REDUCES FRONT PROTRUSION
/ NO LOSS OF DRIVE PERFORMANCE
/ ENABLES SMALLER ASSEMBLIES
/ FAST INSTALLATION

ECO-FRIENDLY - 12% LESS MATERIAL IN THE HEAD THAN STANDARD PAN HEAD SCREWS

TORX PLUS® DRIVE

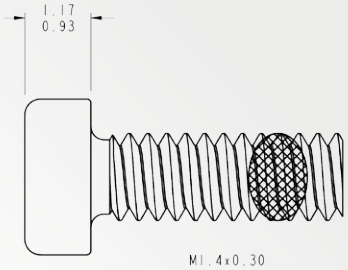


STRONG DRIVE RECESS PERFORMANCE



WAFER HEAD PROFILE

WAFER HEAD PROFILE ALLOWS FOR MORE CONDENSED, SMALLER ASSEMBLIES



STANDARD PAN HEAD PROFILE

NEW WAFER HEAD STANDARDS

UP TO 60% LIGHTER THAN CONVENTIONAL RIVETS OR SCREWS

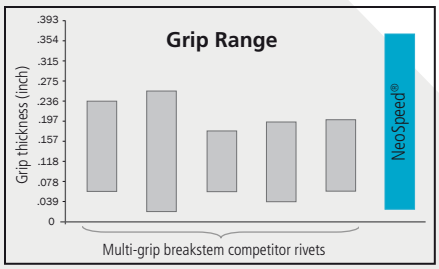
WIDEST GRIP RANGE OF ANY NON-STRUCTURAL RIVET

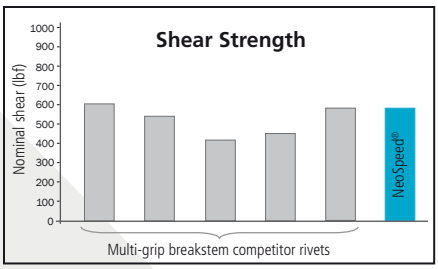
UP TO 4X GREATER THROUGHPUT THAN CONVENTIONAL RIVETS OR SCREWS

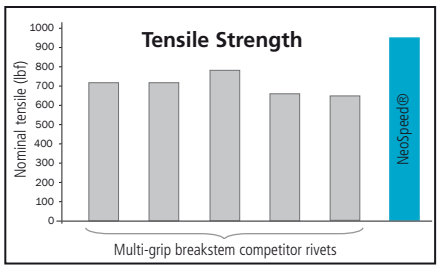
ECO-FRIENDLY - ZERO WASTE MATERIAL AND USES 56% LESS MATERIAL THAN CONVENTIONAL RIVETS

SPLINE DESIGN

/ LARGE HOLE TOLERANCE
/ WIDEST GRIP RANGE IN ITS CLASS
/ MOST VERSATILE IN ITS CLASS
/ HIGH SHEAR AND TENSILE STRENGTH
/ FASTEST INSTALLATION TIMES
/ HIGHLY SUITED TO AUTOMATION
/ IMPROVED PRODUCTIVITY
/ EASY SPECIFICATION







NEW NEOSPEED® FASTENER

RANGE OVERVIEW

Product Type	Name/Brand		Description	Pg #
THREADED PRODUCTS				
Thread Forming Metal	Crimptite®		Anti-vibration and strip-out resistant thread forming screws for sheet metal	8-9
	Mag-Form®		Thread forming screws for magnesium	10-11
	Taptite 2000®		High performance thread rolling screws	12-13
Thread Forming Plastic	Delta PT®		Thread forming screws for plastic and composite materials	14-15
Machine Screws	Machine Screw with Patch		Torx Plus® miniature machine screws with locking patch	16-17
SEMS (Captive Washer)	Machine Screw SEMS with Patch		Torx Plus® miniature machine screws with captive washer and patch	18-19
Drive Systems	3L Tio®		Micro fastener solutions for cosmetic and thin head applications	20-21
	Ultra HD Drive Bits		Ultra HD drive bits provide best-in-class performance and include the advanced iSymm® drive alignment feature	22-23
INSERTS / CLINCH PRODUCTS				
Inserts	Miniature Inserts		Brass and stainless inserts for high volume, low cost assembly	24-25
Press Nuts	Press Nuts		Performance load bearing threads in thin sheet materials	26-27
Standoffs	Ultra Standoff		Mount and space materials in applications with limited space	28
Thread Form	Spiralock®		Unique preload locking internal (female) thread form that is exceptionally resistant to transverse vibration	29
GEMSTONE - PERFORMANCE COATINGS AND FINISHES				
Performance Coatings	ACU® Coat		Environmentally compliant, color matching, performance eco-coating	30
	Optia®		Thin-film, lubricious polymer coating for cleanliness and torque control	31
Cosmetic Finishes	PVD		Physical Vapor Deposition coatings for ultimate corrosion and wear resistance in cosmetic applications	32
	CNC Machine Finishes		Range of proprietary machine finishes for cosmetic applications	33
SPECIALS				
Custom Components	Cold Formed Specials		Proprietary cold forming to reduce component cost and complexity	34
	Precision CNC		Advanced CNC machining for specialist components and materials	35
	Micro Stampings		Precision micro-stamped components	36
	Pins		Special pins and hinge pins for variety of applications	37
	Tape and Reel		Miniatures inserted in tape and reels for high volume assembly	37

Product Type	Name/Brand		Description	Pg #
RIVETING SYSTEMS				
Speed Fastening®	Double Flush Chobert®		Double countersunk Speed Fastening® rivet for minimal protrusion and high speed assembly	38-39
	NeoSpeed®		Speed fasteners for ultimate strength and versatile assembly	40-41
	Rivscrew®		Threaded, removable Speed Fastening® rivet	42-43
	Rivscrew® PL		Threaded, removable Speed Fastening® rivet for plastics	44-45
Breakstem Rivets	Avibulb® and Avinox®		High performance bulbing rivets, ideal for thin sheet applications	46-47
	Closed End Rivet		Fully sealed rivet eliminates ingress of moisture, water and debris	48-49
	Micro Rivets		Open end rivets in micro 2mm diameter	50-51
	Pull Thru (PT) Rivet		Double countersunk rivet for minimal protrusion	52-53
TOOLING AND AUTOMATION				
Hand Tools	Breakstem Rivet Tools		Rivet installation tooling	54
	Speed Fastening® Tools		Installation tooling for Speed Fastening® systems	55
Automation	Rivet Automation		Automation solutions for rivets and Speed Fastening®	56-57
ENGINEERING, SERVICES & DESIGN KITS				
Prototype & Design Kits	Electronics Standards		Electronic Standards fastener and component samples	58
	Drive Bit		Electronics Standards Drive Bit kit featuring 6LDX™ drive bits with iSymm® drive alignment feature	58
	PPD Kit		Engineering design kit with prototype quantity parts	59
Engineering Services	Technical Support		Full VA/VE, teardown, design & application engineering services	61
	Customization		Custom parts, prototype model shop & performance testing	62

Click this icon to return to the range overview at anytime whilst navigating the e-catalogue

We can manufacture parts from safe and friendly materials for the touch of the human body that meet current safety standards.

IPX7

As trends for hand held devices and wearables gain popularity the need for them to be more robust to their environment increases. We can add features like special coatings and sealants or under head design changes with advanced thread profiles to our products to pass/exceed the IPX7 water proof standards. To learn more you can find a White Paper in the Document Library on www.StanleyEngineeredFastening.com.

CRIMPTITE®

Unmatched Performance against Strip-out and Vibration Loosening in Thin Sheet Metal Applications

Overview

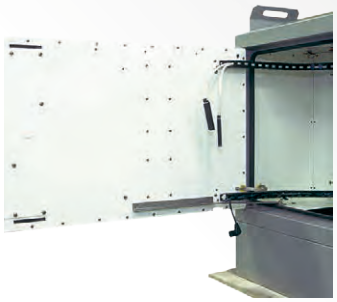
Crimptite® fasteners are engineered to minimize strip-out and provide maximum thread engagement, resulting in greater joint integrity. Under head serrations offer exceptional resistance to strip-out and rotation by locking into the application surface. During the installation process, material is drawn up under the head creating more surface area in thin sheets for greater thread engagement.

Features and Benefits

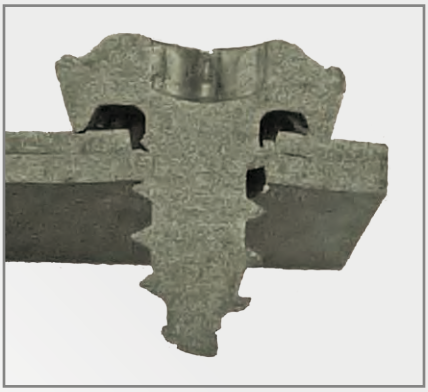
/ Undercut washer head
/ Shank is threaded into undercut area
/ Provides higher drive-to-strip ratios than other sheet metal screws
/ Increases resistance to strip-out
/ Increases resistance to vibration loosening
/ Provides reliable performance after removal and reinsertion
/ Lowers scrap, rework and in-place costs
/ Allows use of lighter gauge sheet metals
/ Can be used as repair screws where standard sheet metal screws have stripped out
/ Serrations break paint on the application surface for superior performance in grounding applications

Assembly Applications

ELECTRONIC ENCLOSURES



TELECOMS CABINETS

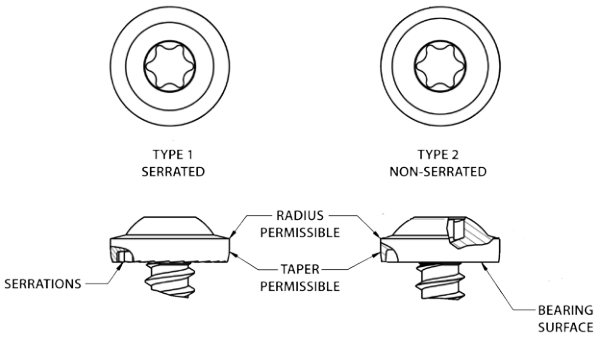


applicable markets /

CRIMPTITE®

Specifications

/ Sizes: M2.9 – M4.8
/ Head Styles: Round Washer
/ Drive System: TORX PLUS®
/ Material: Carbon steel
/ Heat Treat: Case hardened
/ Finish: Acu® Black Eco-Coating



Size	Part Number	Head Style	Drive Size
SERRATED UNDER HEAD			
M2.9 X 1.06 X 9.5mm	3ES-R8102-00	Round Washer	10IP
M3.5 X 1.27 X 13mm	3ES-R8104-00	Round Washer	15IP
M4.2 X 1.41 X 16mm	3ES-R8106-00	Round Washer	20IP
M4.8 X 1.59 X 16mm	3ES-R8108-00	Round Washer	25IP
SMOOTH UNDER HEAD			
M2.9 X 1.06 X 9.5mm	3ES-R8202-00	Round Washer	10IP
M3.5 X 1.27 X 13mm	3ES-R8204-00	Round Washer	15IP
M4.2 X 1.41 X 16mm	3ES-R8206-00	Round Washer	20IP
M4.8 X 1.59 X 16mm	3ES-R8208-00	Round Washer	25IP

MAG-FORM®

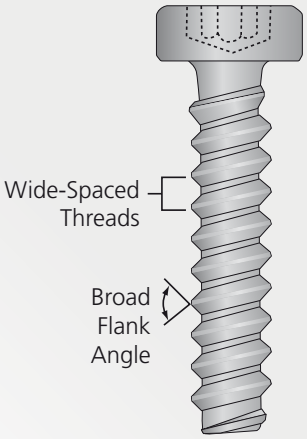
Maximizes Performance Tapping into Magnesium Die-castings and other low ductile Materials

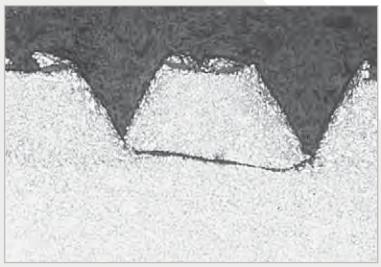
Overview

Mag-Form® fasteners are specifically designed with a broader flank angle to eliminate tapping operations while forming strong threads in conventional magnesium die-castings and similar materials. The design also minimizes debris, making Mag-Form® fasteners the optimal solution for critical applications in electronic components.

Features and Benefits

/ Lobular configuration
/ Wide-spaced thread design
/ Broad flank angle compresses rather than roll-forms threads into the mating material
/ Minimizes debris generation
/ Forms strong threads in low-ductile materials
/ Can be removed and reinserted with minimal debris generation





STANDARD 60° FLANK ANGLE THREAD FORMING FASTENERS May exceed ductility limit of the material, damaging formed threads

MAG-FORM® THREAD FORMING FASTENERS Compressive action forms strong threads in low-ductile materials

Assembly Applications

CAMERA HOUSING

LAPTOPS

MOBILE PHONES

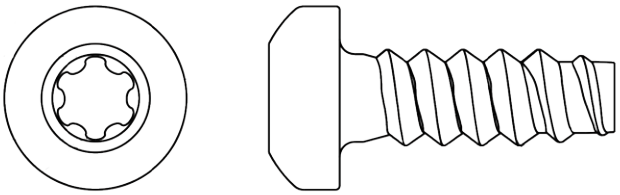
applicable markets /

DEMO

MAG-FORM®

Specifications

/ Sizes: M1.2 – M4
/ Head Styles: Pan, Wafer
/ Drive System: TORX PLUS® Drive
/ Material: Low carbon steel
/ Heat treat: Through hardened
/ Finish: Acu® Black Eco-Coating



Size	Part Number	Head	Drive Size
MG1.2 (1.2MM DIAMETER)			
MG1.2-0.50 x 3mm	3ES-W8500-00	Wafer	3IP
MG1.2-0.50 x 6mm	3ES-W8501-00	Wafer	3IP
MG1.4 (1.4MM DIAMETER)			
MG1.4-0.60 x 3mm	3ES-W8502-00	Wafer	3IP
MG1.4-0.60 x 6mm	3ES-W8503-00	Wafer	3IP
MG1.6 (1.6MM DIAMETER)			
MG1.6-0.70 x 3mm	3ES-P873-00	Pan	6IP
MG1.6-0.70 x 5mm	3ES-P856-00	Pan	6IP
MG1.6-0.70 x 8mm	3ES-P858-00	Pan	6IP
MG2 (2MM DIAMETER)			
MG2.0-0.80 x 5mm	3ES-P861-00	Pan	6IP
MG2.0-0.80 x 6mm	3ES-P862-00	Pan	6IP
MG2.0-0.80 x 8mm	3ES-P863-00	Pan	6IP
MG2.0-0.80 x 10mm	3ES-P864-00	Pan	6IP
MG2.5 (2.5MM DIAMETER)			
MG2.5-0.90 x 6mm	3ES-P806-00	Pan	8IP
MG2.5-0.90 x 8mm	3ES-P807-00	Pan	8IP
MG2.5-0.90 x 10mm	3ES-P805-00	Pan	8IP

Size	Part Number	Head	Drive Size
MG3 (3MM DIAMETER)			
MG3.0-1.00 x 8mm	3ES-P869-00	Pan	10IP
MG3.0-1.00 x 10mm	3ES-P870-00	Pan	10IP
MG3.0-1.00 x 12mm	3ES-P871-00	Pan	10IP
MG3.0-1.00 x 15mm	3ES-P872-00	Pan	10IP
MG4 (4MM DIAMETER)			
MG4.0-1.40 x 10mm	3ES-P878-00	Pan	20IP
MG4.0-1.40 x 15mm	3ES-P876-00	Pan	20IP
MG4.0-1.40 x 18mm	3ES-P875-00	Pan	20IP

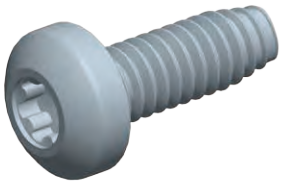
The recommended minimum length of thread engagement, excluding the two lead threads, should be equal to 2-1/2 times the basic screw size. Blind holes should be deep enough to allow a two-thread lead, with clearance, at the bottom of the hole. The included draft angle is 1.0°.

DEMO

***TRY** it / **TEST** it / **CUSTOMIZE** it*

TAPTITE 2000®

High Performance Thread Rolling Screws designed to form Internal Threads in Untapped Holes



Overview

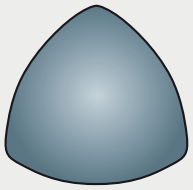
The innovative Radius Profile™ thread and proven Trilobular® geometry provide excellent mechanical, assembly and ergonomic characteristics surpassed by no other equivalent technology. TAPTITE 2000®'s high prevailing torque performance, exceptional drive-to-fail ratio and low starting end load offer considerable advantages and assembly cost savings.

Features and Benefits

Trilobular® Configuration
/ Reduces friction
/ Increases prevailing torque
/ Resists loosening caused by vibration
/ Lower end load requirements

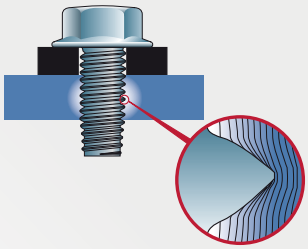
Radius Profile™ Thread
/ Lowers thread forming torque without sacrificing performance
/ Higher, more uniform drive-to-fail ratio resists internal thread stripping
/ Excellent axial alignment

Roll Forms Own Work-hardened Mating Threads
/ Creates higher strength flow/work hardened threads



TRILOBULAR® CROSS SECTION

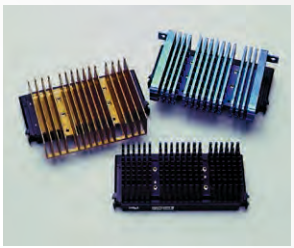
Extruding holes for fasteners in light-gage steel nearly doubles the length of thread engagement over the original material thickness. TAPTITE 2000® fasteners develop almost twice the failure torque in extruded holes, providing maximum joint integrity.



Assembly Applications

ELECTRONICS HOUSINGS

PRINTER CHASSIS



ALUMINUM HEAT SINK

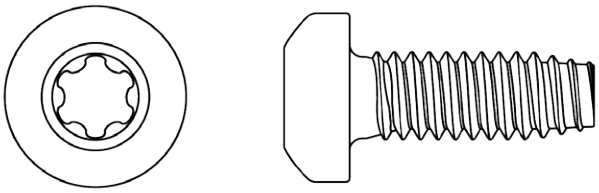
applicable markets /

DEMO

TAPTITE 2000®

Specifications

/ Sizes: #0 – 6-32 / M1.0 - M3.0
/ Head Styles: Wafer, Pan
/ Drive System: TORX PLUS® Drive
/ Material: Low carbon steel
/ Heat Treat: Case hardened
/ Finish: Acu® Black Eco-Coating



Size	Length	Part Number	Head	Drive Size
10 (1.0MM DIAMETER)				
MR1.0 - 0.25	3mm	3ES-W8603-00	Wafer	1IP
MR1.0 - 0.25	4mm	3ES-W8606-00	Wafer	1IP
MR1.0 - 0.25	6mm	3ES-W8612-00	Wafer	1IP
12 (1.2MM DIAMETER)				
MR1.2 - 0.25	3mm	3ES-W8615-00	Wafer	3IP
MR1.2 - 0.25	4mm	3ES-W8618-00	Wafer	3IP
MR1.2 - 0.25	6mm	3ES-W8624-00	Wafer	3IP
14 (1.4MM DIAMETER)				
MR1.4 - 0.30	3mm	3ES-W8627-00	Wafer	3IP
MR1.4 - 0.30	4mm	3ES-W8630-00	Wafer	3IP
MR1.4 - 0.30	6mm	3ES-W8636-00	Wafer	3IP
16 (1.6MM DIAMETER)				
MR1.6 - 0.35	3mm	3ES-P8790-00	Pan	5IP
MR1.6 - 0.35	4mm	3ES-P8793-00	Pan	5IP
MR1.6 - 0.35	8mm	3ES-P8799-00	Pan	5IP
18 (1.8MM DIAMETER)				
MR1.8 - 0.35	4mm	3ES-P8802-00	Pan	6IP
MR1.8 - 0.35	6mm	3ES-P8805-00	Pan	6IP
MR1.8 - 0.35	10mm	3ES-P8811-00	Pan	6IP
20 (2.0MM DIAMETER)				
MR2.0 - 0.40	4mm	3ES-P8814-00	Pan	6IP
MR2.0 - 0.40	6mm	3ES-P8817-00	Pan	6IP
MR2.0 - 0.40	10mm	3ES-P8823-00	Pan	6IP
30 (3.0MM DIAMETER)				
MR3.0 - 0.50	4mm	3ES-P8826-00	Pan	10IP
MR3.0 - 0.50	6mm	3ES-P8829-00	Pan	10IP
MR3.0 - 0.50	10mm	3ES-P8832-00	Pan	10IP

Size	Length	Part Number	Head	Drive Size
#0-80				
IR0-80	1/8"	3ES-P8700-00	Pan	5IP
IR0-80	1/4"	3ES-P8701-00	Pan	5IP
IR0-80	1/2"	3ES-P8703-00	Pan	5IP
#2-56				
IR2-56	1/8"	3ES-P8704-00	Pan	7IP
IR2-56	1/4"	3ES-P8705-00	Pan	7IP
IR2-56	1/2"	3ES-P8707-00	Pan	7IP
#4-40				
IR4-40	1/4"	3ES-P8710-00	Pan	10IP
IR4-40	3/8"	3ES-P8711-00	Pan	10IP
IR4-40	1/2"	3ES-P8712-00	Pan	10IP
IR4-40	3/4"	3ES-P8714-00	Pan	10IP
#6-32				
IR6-32	1/4"	3ES-P8716-00	Pan	15IP
IR6-32	3/8"	3ES-P8717-00	Pan	15IP
IR6-32	1/2"	3ES-P8718-00	Pan	15IP
IR6-32	3/4"	3ES-P8719-00	Pan	15IP

DEMO

***TRY** it / **TEST** it / **CUSTOMIZE** it*

DELTA PT®

Thread Forming Screws Engineered for Maximum Performance in a Wide Range of Thermoplastics

Overview

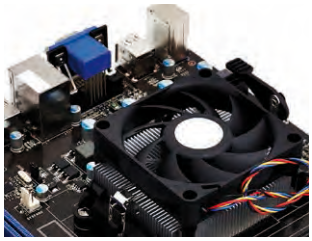
Delta PT® fasteners are engineered to provide maximum performance in a wide range of thermoplastics. The optimized design results in a stronger fastener that creates advanced material flow during installation, providing higher performance, better clamp loads and increased joint life.

Features and Benefits

/ Flank geometry engineered to provide better material flow during installation combined with high flank engagement
/ Larger fastener cross-section increases shear area and fastener strength
/ Optimized pitch allows high clamp load with smaller contact pressure
/ Minimizes radial stress
/ Offers increased fatigue life
/ Optimizes material flow
/ Provides increased torsional and tensile strength
/ Can achieve higher clamp loads and seating torque
/ May permit use of shorter fasteners and/or smaller diameters, if necessary
/ Recommended for use in thermoplastics with a flexible modulus up to 1,400,000 p.s.i.

Minimizes boss stress
(Delta PT® - right)

Assembly Applications



COOLING FANS

MOBILE HANDSETS

TABLETS

PRINTERS

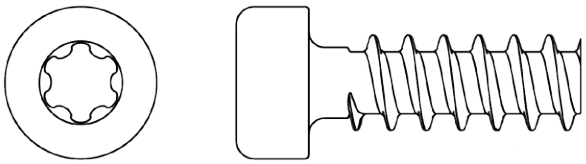
applicable markets /

DEMO

DELTA PT®

Specifications

/ Sizes: M0.8 – M4
/ Head Styles: Pan, Wafer
/ Drive System: TORX PLUS® Drive
/ Material: Steel (ASTM F2282)
/ Heat treat: Through hardened
/ Finish: Acu® Black Eco-Coating



Size	Part Number	Head	Drive Size
DELTA PT 08 (0.8MM DIAMETER)			
D08-0.37 x 1.1mm	3ES-W8405-00	Wafer	1IP
D08-0.37 x 1.5mm	3ES-W8406-00	Wafer	1IP
D08-0.37 x 2.0mm	3ES-W8407-00	Wafer	1IP
D08-0.37 x 2.5mm	3ES-W8408-00	Wafer	1IP
DELTA PT 10 (1.0MM DIAMETER)			
D10-0.44 x 1.5mm	3ES-W8415-00	Wafer	1IP
D10-0.44 x 2mm	3ES-W8416-00	Wafer	1IP
D10-0.44 x 2.5mm	3ES-W8417-00	Wafer	1IP
D10-0.44 x 3mm	3ES-W8418-00	Wafer	1IP
DELTA PT 12 (1.2MM DIAMETER)			
D12-0.51 x 1.5mm	3ES-W8420-00	Wafer	3IP
D12-0.51 x 2mm	3ES-W8421-00	Wafer	3IP
D12-0.51 x 2.5mm	3ES-W8422-00	Wafer	3IP
D12-0.51 x 3mm	3ES-W8411-00	Wafer	3IP
D12-0.51 x 4mm	3ES-W8412-00	Wafer	3IP
DELTA PT 14 (1.4MM DIAMETER)			
D14-0.57 x 2mm	3ES-W8459-00	Wafer	3IP
D14-0.57 x 3mm	3ES-W8460-00	Wafer	3IP
D14-0.57 x 4mm	3ES-W8461-00	Wafer	3IP
D14-0.57 x 5mm	3ES-W8423-00	Wafer	3IP
D14-0.57 x 6mm	3ES-W8424-00	Wafer	3IP
DELTA PT 16 (1.6MM DIAMETER)			
D16-0.64 x 3mm	3ES-P8562-00	Pan	5IP
D16-0.64 x 4mm	3ES-P8563-00	Pan	5IP
D16-0.64 x 5mm	3ES-P8564-00	Pan	5IP
D16-0.64 x 6mm	3ES-P8625-00	Pan	5IP
DELTA PT 18 (1.8MM DIAMETER)			
D18-0.71 X 3mm	3ES-P8626-00	Pan	6IP
D18-0.71 x 4mm	3ES-P8565-00	Pan	6IP
D18-0.71 x 5mm	3ES-P8627-00	Pan	6IP
D18-0.71 x 6mm	3ES-P8566-00	Pan	6IP
D18-0.71 x 8mm	3ES-P8567-00	Pan	6IP

Size	Part Number	Head	Drive Size
DELTA PT 20 (2MM DIAMETER)			
D20-0.78 X 3mm	3ES-P8628-00	Pan	6IP
D20-0.78 x 4mm	3ES-P8569-00	Pan	6IP
D20-0.78 x 5mm	3ES-P8629-00	Pan	6IP
D20-0.78 x 6mm	3ES-P8571-00	Pan	6IP
D20-0.78 x 8mm	3ES-P8572-00	Pan	6IP
D20-0.78 x 10mm	3ES-P8573-00	Pan	6IP
DELTA PT 22 (2.2MM DIAMETER)			
D22-0.85 x 4mm	3ES-P8575-00	Pan	6IP
D22-0.85 x 6mm	3ES-P8576-00	Pan	6IP
D22-0.85 x 8mm	3ES-P8577-00	Pan	6IP
D22-0.85 x 12mm	3ES-P8579-00	Pan	6IP
DELTA PT 25 (2.5MM DIAMETER)			
D25-0.95 X 5mm	3ES-P8631-00	Pan	8IP
D25-0.95 x 6mm	3ES-P8580-00	Pan	8IP
D25-0.95 x 8mm	3ES-P8581-00	Pan	8IP
D25-0.95 x 10mm	3ES-P8582-00	Pan	8IP
D25-0.95 x 12mm	3ES-P8583-00	Pan	8IP
DELTA PT 30 (3MM DIAMETER)			
D30-1.12 x 6mm	3ES-P8585-00	Pan	10IP
D30-1.12 x 8mm	3ES-P8586-00	Pan	10IP
D30-1.12 x 10mm	3ES-P8587-00	Pan	10IP
D30-1.12 x 16mm	3ES-P8589-00	Pan	10IP
DELTA PT 35 (3.5MM DIAMETER)			
D35-1.29 x 8mm	3ES-P8591-00	Pan	15IP
D35-1.29 x 10mm	3ES-P8592-00	Pan	15IP
D35-1.29 x 12mm	3ES-P8593-00	Pan	15IP
DELTA PT 40 (4MM DIAMETER)			
D40-1.46 x 8mm	3ES-P8596-00	Pan	20IP
D40-1.46 x 10mm	3ES-P8597-00	Pan	20IP
D40-1.46 x 12mm	3ES-P8598-00	Pan	20IP
D40-1.46 x 14mm	3ES-P8595-00	Pan	20IP
D40-1.46 x 16mm	3ES-P8599-00	Pan	20IP
D40-1.46 x 20mm	3ES-P8600-00	Pan	20IP

DEMO

***TRY** it / **TEST** it / **CUSTOMIZE** it*

MACHINE SCREWS W/PATCH

High Quality Torx Plus® Drive Machine Screws

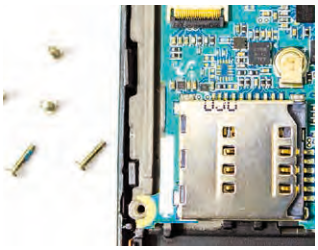
Overview

Torx Plus® machine screws with nylon patch resist loosening and provide a high quality fixing into female machine threads. Available in wafer head as standard in miniature metric sizes.

Features and Benefits

/ Large head-to-shank ratios possible
/ Cold formed uninterrupted grain flow
/ Improved strength and reliability through work-hardening
/ Smooth low friction surface finish
/ Reduced scrap rates
/ High production rates
/ Increased strength and lowered costs over screw machined components

Assembly Applications



MOBILE DEVICES

TABLETS

HDD

FLAT PANEL DISPLAYS

IPX7

applicable markets /

MACHINE SCREWS W/PATCH

Specifications

/ Sizes: #000 – #6-32" / M1 – M3
/ Head Styles: Pan, Wafer
/ Drive System: Torx Plus® Drive
/ Material: Steel
/ Heat treat: Through hardened
/ Finish: Acu® Black Eco-Coating + Nylon Patch

Size	Length	Part Number	Head	Drive Size
M1.0				
M1 - 0.25	1.0mm	3ES-W8700-00	Wafer	1IP
M1 - 0.25	1.5mm	3ES-W8702-00	Wafer	1IP
M1 - 0.25	2.0mm	3ES-W8704-00	Wafer	1IP
M1 - 0.25	2.5mm	3ES-W8706-00	Wafer	1IP
M1.2				
M1.2 - 0.25	1.5mm	3ES-W8710-00	Wafer	3IP
M1.2 - 0.25	2.0mm	3ES-W8712-00	Wafer	3IP
M1.2 - 0.25	2.5mm	3ES-W8714-00	Wafer	3IP
M1.2 - 0.25	3.0mm	3ES-W8716-00	Wafer	3IP
M1.2 - 0.25	4.0mm	3ES-W8718-00	Wafer	3IP
M1.4				
M1.4 - 0.30	2.0mm	3ES-W8722-00	Wafer	3IP
M1.4 - 0.30	3.0mm	3ES-W8724-00	Wafer	3IP
M1.4 - 0.30	4.0mm	3ES-W8726-00	Wafer	3IP
M1.4 - 0.30	5.0mm	3ES-W8728-00	Wafer	3IP
M1.6				
M1.6 - 0.35	2.5mm	3ES-P8538-00	Pan	5IP
M1.6 - 0.35	3.5mm	3ES-P8539-00	Pan	5IP
M1.6 - 0.35	4.5mm	3ES-P8540-00	Pan	5IP
M1.6 - 0.35	5.5mm	3ES-P8541-00	Pan	5IP
M1.8				
M1.8 - 0.35	3.0mm	3ES-P8542-00	Pan	6IP
M1.8 - 0.35	4.0mm	3ES-P8543-00	Pan	6IP
M1.8 - 0.35	5.0mm	3ES-P8544-00	Pan	6IP
M1.8 - 0.35	6.0mm	3ES-P8545-00	Pan	6IP
M2.0				
M2.0 - 0.40	4.0mm	3ES-P8546-00	Pan	6IP
M2.0 - 0.40	6.0mm	3ES-P8547-00	Pan	6IP
M2.0 - 0.40	8.0mm	3ES-P8548-00	Pan	6IP
M3.0				
M3.0 - 0.5	6.0mm	3ES-P8549-00	Pan	10IP
M3.0 - 0.5	8.0mm	3ES-P8550-00	Pan	10IP
M3.0 - 0.5	10mm	3ES-P8551-00	Pan	10IP

Size	Length	Part Number	Head	Drive Size
#000-120				
000-120	1/8"	3ES-P8516-00	Pan	1IP
000-120	3/16"	3ES-P8517-00	Pan	1IP
000-120	1/4"	3ES-P8518-00	Pan	1IP
#00-90				
00-90	1/8"	3ES-P8519-00	Pan	2IP
00-90	3/16"	3ES-P8520-00	Pan	2IP
00-90	1/4''	3ES-P8521-00	Pan	2IP
#0-80				
0-80	1/8"	3ES-P8522-00	Pan	5IP
0-80	3/16"	3ES-P8523-00	Pan	5IP
0-80	1/4''	3ES-P8524-00	Pan	5IP
#2-56				
2-56	1/8"	3ES-P8525-00	Pan	7IP
2-56	3/16"	3ES-P8526-00	Pan	7IP
2-56	1/4''	3ES-P8527-00	Pan	7IP
2-56	5/16''	3ES-P8528-00	Pan	7IP
#4-40				
4-40	3/16"	3ES-P8529-00	Pan	10IP
4-40	1/4''	3ES-P8530-00	Pan	10IP
4-40	5/16''	3ES-P8531-00	Pan	10IP
4-40	3/8''	3ES-P8532-00	Pan	10IP
#6-32				
6-32	1/4''	3ES-P8533-00	Pan	15IP
6-32	5/16''	3ES-P8534-00	Pan	15IP
6-32	3/8''	3ES-P8535-00	Pan	15IP
6-32	1/2''	3ES-P8536-00	Pan	15IP
6-32	5/8''	3ES-P8537-00	Pan	15IP

SEMS MACHINE SCREWS

SEMS Screws with Captivated Crest Cup Washer

Overview

Torx Plus® captive washer machine screws with nylon patch help resist loosening and distribute the load over a larger surface area of the top material, resisting crushing and creating a solid vibration resistant joint.

Features and Benefits

/ Large head-to-shank ratios
/ Uninterrupted grain flow
/ Work hardened strength and reliability
/ Smooth low friction surface finish
/ Minimizes crushing in soft or brittle materials
/ Reduced scrap rates
/ High production rates
/ Increased strength and lowered costs over screw machined components

Assembly Applications

PRINTERS

SERVER CHASSIS

TELECOMS EQUIPMENT

FLAT PANEL DISPLAYS

applicable markets /

SEMS MACHINE SCREWS

Specifications

/ Sizes: #2-56 – #10-32" / M3 - M4
/ Head Styles: Pan
/ Drive System: Torx Plus® Drive
/ Material: Steel
/ Heat treat: Through hardened
/ Plating: Acu® Black Eco-Coating + Nylon Patch

Thread Size	Length	Part #	Head Style	Recess
M3 DIAMETER				
M3–0.5	6mm	3ES-P843-00	Pan	10IP
M3–0.5	8mm	3ES-P8049-00	Pan	10IP
M3–0.5	12mm	3ES-P8051-00	Pan	10IP
M4 DIAMETER				
M4–0.7	8mm	3ES-P839-00	Pan	20IP
M4–0.7	12mm	3ES-P840-00	Pan	20IP
M4–0.7	20mm	3ES-P8054-00	Pan	20IP

Thread Size	Length	Part #	Head Style	Recess
#2 DIAMETER				
2–56	3/16"	3ES-P8037-00	Pan	7IP
2–56	1/4"	3ES-P824-00	Pan	7IP
2–56	3/8"	3ES-P825-00	Pan	7IP
2–56	1/2"	3ES-P8038-00	Pan	7IP
#4 DIAMETER				
4–40	1/4"	3ES-P855-00	Pan	10IP
4–40	3/8"	3ES-P838-00	Pan	10IP
4–40	1/2"	3ES-P854-00	Pan	10IP
#6 DIAMETER				
6–32	1/4"	3ES-P833-00	Pan	15IP
6–32	3/8"	3ES-P834-00	Pan	15IP
6–32	1/2"	3ES-P835-00	Pan	15IP
6–32	5/8"	3ES-P8040-00	Pan	15IP
#8 DIAMETER				
8–32	1/4"	3ES-P830-00	Pan	20IP
8–32	3/8"	3ES-P831-00	Pan	20IP
8–32	1/2"	3ES-P832-00	Pan	20IP
8–32	3/4"	3ES-P8042-00	Pan	20IP
#10 DIAMETER				
10–32	3/8"	3ES-P828-00	Pan	25IP
10–32	1/2"	3ES-P829-00	Pan	25IP
10–32	3/4"	3ES-P8045-00	Pan	25IP

3L TIO®

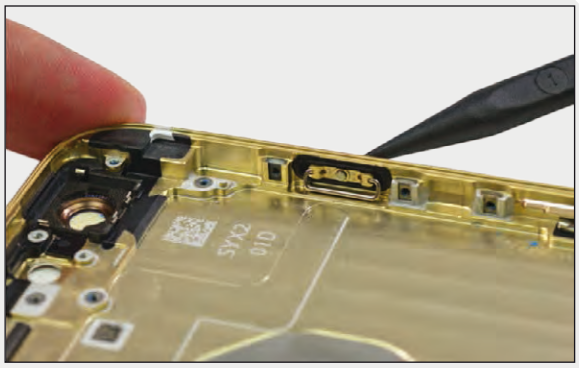
Micro Fastener Solutions for Cosmetic and Thin Head Applications

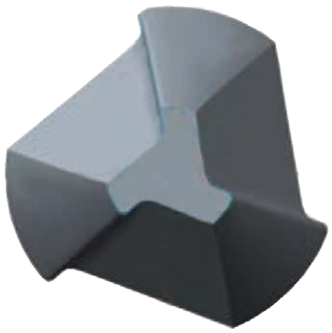
Overview

With electronic devices becoming more compact, more advanced in their design and loaded with more components, the challenge to assemble in tight spaces and in unusual angles has increased and becomes problematic in mass production. The solution is micro fastening with 3L TIO® as it allows for off access angle drive and the flexibility of using one drive bit for multiple recess sizes.

Features and Benefits

/ 3L Tio, 3 lobe drive system which allows two or more different size screws to work with one bit
/ Specifically designed for 0.8 - 1.8mm fasteners
/ 2 driver bits work with 6 different size fasteners
/ Can achieve head thickness as low as 0.15 mm
/ Off access assembly capable
/ Virtually no cam-out
/ Up to 40% more torque compared to other drive systems
/ More robust solution
/ Fasteners available in Aluminum which are up to 50% lighter
/ Available in Machine screw and Delta PT® thread profiles





3L TIO® DRIVE BIT

3L TIO® RECESS

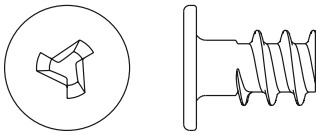
COSMETIC 3L TIO® M1.6

IPX7

applicable markets /

3L TIO®

Specifications Delta PT®

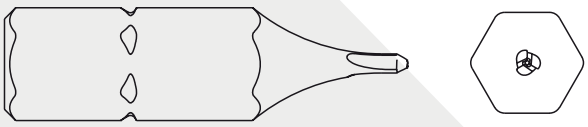


/ Material: 7075 Aluminum, Condition T6
/ Sizes: M0.8 – M1.2
/ Head Style: Thin Wafer

Size	Part Number	Drive Size	Part Number
DELTA PT 08 (0.8MM DIAMETER)			DRIVE BIT
D08 x 0.37 x 1.1mm	3ES-W7405-00	#00	357-T3L00-61
DELTA PT 10 (1.0MM DIAMETER)			
D10 x 0.44 x 1.5mm	3ES-W7415-00	#00	357-T3L00-61
DELTA PT 12 (1.2MM DIAMETER)			
D12 x 0.51 x 1.5mm	3ES-W7420-00	#00	357-T3L00-61

/ Material: 1018-1022 Steel
/ Heat treat: Through hardened
/ Finish: Acu® Black Eco-Coating
/ Sizes: M1.4 – M1.8
/ Head Style: Thin Wafer

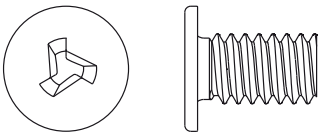
Size	Part Number	Drive Size	Part Number
DELTA PT 14 (1.4MM DIAMETER)			DRIVE BIT
D14 x 0.57 x 2mm	3ES-W8430-00	#0	357-T3L01-61
DELTA PT 16 (1.6MM DIAMETER)			
D16 x 0.64 x 2.5mm	3ES-W8445-00	#0	357-T3L01-61
DELTA PT 18 (1.8MM DIAMETER)			
D18 x 0.71 x 3mm	3ES-W8470-00	#0	357-T3L01-61



PART NO. 357-T3L01-61 (#0)
357-T3L00-61 (#00)

IPX7

Specifications Machine Screws
with Nylon Patch



/ Material: 7075 Aluminum, Condition T6
/ Finish: Nylon Patch
/ Sizes: M0.8 – M1.2
/ Head Style: Thin Wafer

Size	Part Number	Drive Size	Part Number
M0.8			DRIVE BIT
M0.8 x 0.20 x 1.0mm	3ES-W7730-00	#00	357-T3L00-61
M1.0			
M1 x 0.25 x 1.0mm	3ES-W7740-00	#00	357-T3L00-61
M1.2			
M1.2 x 0.25 x 1.0mm	3ES-W7750-00	#00	357-T3L00-61

/ Material: 1018-1022 Steel
/ Heat treat: Through hardened
/ Finish: Acu® Black Eco-Coating + Nylon Patch
/ Sizes: M0.8 – M1.8
/ Head Style: Thin Wafer

Size	Part Number	Drive Size	Part Number
M0.8			DRIVE BIT
M0.8 x 0.20 x 1.0mm	3ES-W8730-00	#00	357-T3L00-61
M0.8 x 0.20 x 1.5mm	3ES-W8731-00	#00	357-T3L00-61
M0.8 x 0.20 x 2.0mm	3ES-W8732-00	#00	357-T3L00-61
M0.8 x 0.20 x 2.5mm	3ES-W8733-00	#00	357-T3L00-61
M1.0			
M1 x 0.25 x 1.0mm	3ES-W8740-00	#00	357-T3L00-61
M1 x 0.25 x 1.5mm	3ES-W8741-00	#00	357-T3L00-61
M1 x 0.25 x 2.0mm	3ES-W8742-00	#00	357-T3L00-61
M1 x 0.25 x 2.5mm	3ES-W8743-00	#00	357-T3L00-61
M1.2			
M1.2 x 0.25 x 1.0mm	3ES-W8750-00	#00	357-T3L00-61
M1.2 x 0.25 x 1.5mm	3ES-W8751-00	#00	357-T3L00-61
M1.2 x 0.25 x 2.0mm	3ES-W8752-00	#00	357-T3L00-61
M1.2 x 0.25 x 2.5mm	3ES-W8753-00	#00	357-T3L00-61
M1.4			
M1.4 x 0.30 x 2.0mm	3ES-W8760-00	#0	357-T3L01-61
M1.6			
M1.6 x 0.35 x 2.5mm	3ES-W8770-00	#0	357-T3L01-61
M1.8			
M1.8 x 0.35 x 3.0mm	3ES-W8780-00	#0	357-T3L01-61

ULTRA HD DRIVE BITS

Overview

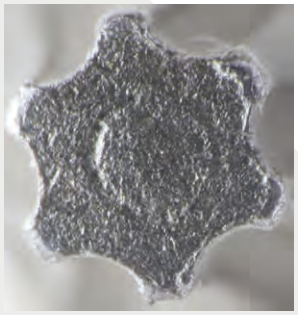
STANLEY Engineered Fastening Ultra HD drive bits are proven to keep assembly lines running smoother and more efficiently by offering increased drive system strength and maximum bit life compared to conventional drivers. The Ultra HD profile and precision bit manufacturing technology provide enhanced bit engagement, fit and alignment to reduce debris generation and improve durability.

Features and Benefits

/ Provides significant improvement in drive bit life*
/ Optimizes torque transfer
/ Significantly reduces cam-out
/ Absolutely minimal debris generation
/ Reduces end load and worker fatigue
/ Reduces annual drive bit costs
/ Eliminates corner break
/ Run-out increases drive utilizations
/ Reduced downtime, number of bit changes and rework

*Compared to conventional 6 lobe drive bits

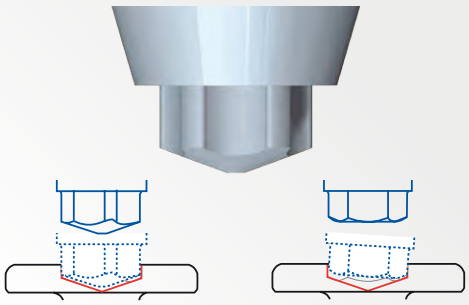
ULTRA HIGH DEFINITION 6LDX™ BIT



COMPETITOR TORX PLUS® BIT

WIDELY USED ACROSS ALL ELECTRONICS MARKET SECTORS

iSymm® conecular drive bit alignment feature is an extension to existing straight side wall drive systems (Torx®, Torx Plus®, 6-lobe, Hex etc.) iSymm® affects only the drive bit, not the existing recess, greatly enhancing recess performance; making it ideal for high volume assembly



applicable markets /

DEMO

ULTRA HD DRIVE BITS

6LDX™ HD DRIVE BIT
WITH ISYMM® FEATURE

3L TIO® Drive Bits (1'' x 1/4" Hex Shank)		
Part Number	Size	Compatible with 3L TIO® recess
357-T3L00-61	#00	M0.8 - M1.2
357-T3L01-61	#0	M1.4 - M1.8

Ultra Standoff Drive Bit (1'' x 1/4" Hex Shank)		
Part Number	Size	Compatible with Ultra Standoff
357-TS001-61	N/A	M0.8 and larger

Ultra HD 6LDX™ Drive Bits with iSymm® (1'' x 1/4" Hex Shank)		
Part Number	Size	Compatible with Torx Plus® recess
357-T0104-61	D-1	1IP
357-T0201-61	D-2	2IP
357-T0305-61	D-3	3IP
357-T0405-61	D-4	4IP
357-T0518-61	D-5	5IP
357-T0613-61	D-6	6IP
357-T0802-61	D-8	8IP
357-T1001-61	D-10	10IP
357-T1501-61	D-15	15IP
357-T2001-61	D-20	20IP
357-T2501-61	D-25	25IP

Tri Drive Bit (1'' x 1/4" Hex Shank)		
Part Number	Size	Compatible with
357-TD002-61	N/A	M0.8 and larger

Cross Drive Bit (1'' x 1/4" Hex Shank)		
Part Number	Size	Compatible with
357-T0010-61	#00	JCIS

BITS ARE AVAILABLE IN VARIOUS
SHANK STYLES ON REQUEST

STANLEY DRIVE HANDLE
PART NO. 3PM-09172-00

STANLEY Engineered Fastening drive bits and recesses feature ultra high definition profiles that maximise drive performance, minimize debris generation and significantly enhance bit life - greatly improving quality and reducing assembly costs.

DEMO

***TRY** it / **TEST** it / **CUSTOMIZE** it*

MINIATURE INSERTS

Dodge®

Symmetrical and Flanged Miniature Dodge® Inserts

Overview

Dodge® Miniature Inserts are designed with opposing diagonal knurls that provide excellent torque resistance and undercuts for tensile strength. Inserts can be installed with heat or molded in.

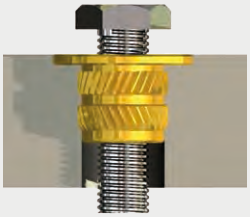
Low Profile Symmetrical Inserts (type 1) are ideal for high-volume production, allowing for use with auto-feed tooling, eliminating the need for correct orientation and allowing higher production and lower total assembly cost.

Flanged Inserts (type 2) feature a lead-in pilot at the front end of the insert that accurately positions the insert prior to installation. The added flange provides a larger bearing surface which is advantageous in weaker plastics.

Features and Benefits

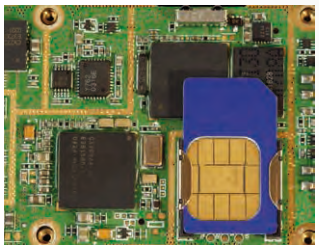
/ Thread sizes as small as 1mm
/ Lead-in pilots provide rapid and accurate positioning
/ Symmetrical design for faster assembly - ideal for automation
/ Flange design enhances performance in weaker plastics and composites
/ Can be installed with heat, or molded in
/ Diagonal knurls provide greater torque resistance
/ Undercuts offer greater tensile strength
/ Optimized for use with STANLEY Engineered Fastening miniature machine screws

MULTI-HEAD THERMAL INSTALLATION EQUIPMENT



Assembly Applications

FAN MODULES



SMART PHONES

PRINTERS

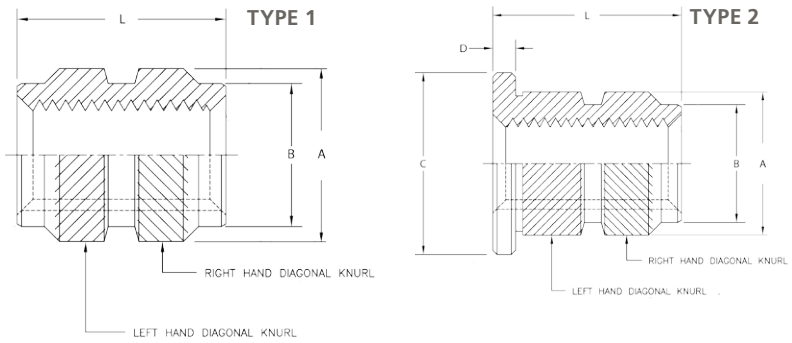
MEDICAL EQUIPMENT

applicable markets /

MINIATURE INSERTS

Specifications

/ Sizes: M1 - M1.6
/ Material: Brass, Stainless Steel
/ Profile: Low Profile, Flanged



Thread Size x Pitch	L (+/- 0.05)	A (+/-0.08)	B (+/-0.08)	C (+/-0.13)	D (+/-0.08)	Material	Part No.
LOW PROFILE SYMMETRICAL INSERT (TYPE 1)							
M1.0 x 0.25	1.50mm	2.00mm	1.62mm	-	-	Brass	3ES-I5001-00
M1.2 x 0.25	1.75mm	2.13mm	1.75mm	-	-	Brass	3ES-I5002-00
M1.4 x 0.30	2.00mm	2.36mm	1.98mm	-	-	Brass	3ES-I5003-00
M1.6 x 0.35	2.25mm	2.58mm	2.20mm	-	-	Brass	3ES-I5004-00
LOW PROFILE SYMMETRICAL INSERT (TYPE 1)							
M1.0 x 0.25	1.50mm	2.00mm	1.62mm	-	-	Stainless	3ES-I5005-00
M1.2 x 0.25	1.75mm	2.13mm	1.75mm	-	-	Stainless	3ES-I5006-00
M1.4 x 0.30	2.00mm	2.36mm	1.98mm	-	-	Stainless	3ES-I5007-00
M1.6 x 0.35	2.25mm	2.58mm	2.20mm	-	-	Stainless	3ES-I5008-00
FLANGED INSERT (TYPE 2)							
M1.0 x 0.25	1.50mm	2.00mm	1.62mm	2.32mm	0.30mm	Brass	3ES-I5009-00
M1.2 x 0.25	1.75mm	2.13mm	1.75mm	2.60mm	0.30mm	Brass	3ES-I5010-00
M1.4 x 0.30	2.00mm	2.36mm	1.98mm	2.96mm	0.35mm	Brass	3ES-I5011-00
M1.6 x 0.35	2.25mm	2.58mm	2.20mm	3.18mm	0.41mm	Brass	3ES-I5012-00
FLANGED INSERT (TYPE 2)							
M1.0 x 0.25	1.50mm	2.00mm	1.62mm	2.32mm	0.30mm	Stainless	3ES-I5013-00
M1.2 x 0.25	1.75mm	2.13mm	1.75mm	2.60mm	0.30mm	Stainless	3ES-I5014-00
M1.4 x 0.30	2.00mm	2.36mm	1.98mm	2.96mm	0.35mm	Stainless	3ES-I5015-00
M1.6 x 0.35	2.25mm	2.58mm	2.20mm	3.18mm	0.41mm	Stainless	3ES-I5016-00

Spiralock® is a technically superior internal thread form that can be applied to internally threaded products to create ultimate vibration resistance, improve load distribution and joint integrity without the need for a locking patch. For more information on Spiralock® CONTACT US.

PRESS NUTS

Load-bearing Threads in Thin Sheet Materials

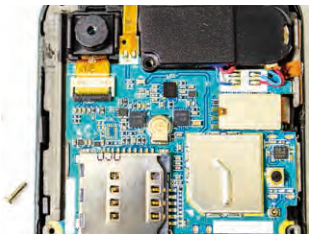
Overview

Miniature Press Nuts provide load-bearing threads in thin sheet materials (aluminum, steel, and other ductile materials). Simple visual inspection of proper installation and a strong, knurled collar, which is completely embedded in the panel, secures the fastener in limited space applications and provides excellent resistance to push out and torque-out.

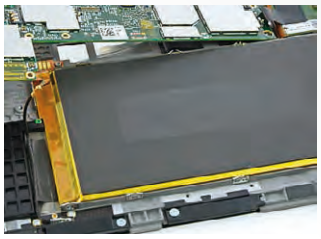
Features and Benefits

/ Ideal for mounting and spacing in thin sheet materials with limited space
/ Provides a robust reusable female thread in thin sheet materials
/ Resists push out
/ Torque-out resistant knurl profile
/ Installed manually or via automation
/ Available in recyclable Tape and Reel delivery system

Assembly Applications

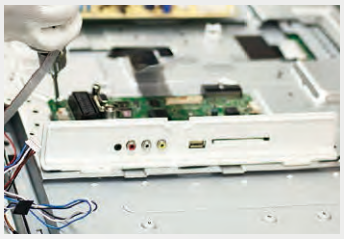


SMART PHONES



TABLETS

PRINTERS



FLAT PANELS

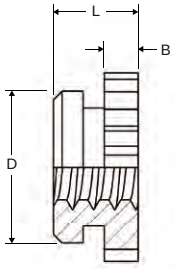
applicable markets /

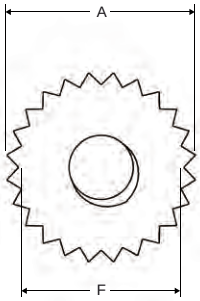
PRESS NUTS

Specifications

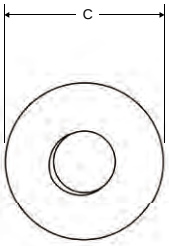
/ Sizes: M1 - M5
/ Materials: Stainless Steel
/ Profile: Knurled Round Body

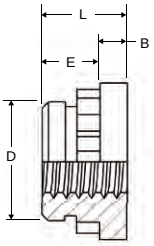
BOSS TYPE

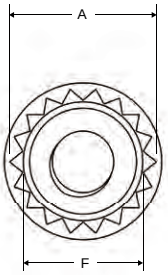




SURFACE TYPE







Thread Size x Pitch	A +/-0.10	B +/-0.05	C +/-0.05	D +/-0.05	E +/-0.05	F ø	L	Part No.
BOSS TYPE - STAINLESS STEEL								
M1.0 x 0.25	2.25	0.40	-	1.80	-	1.95	1.00	3ES-C5017-00
M1.2 x 0.25	2.50	0.40	-	2.00	-	2.28	1.10	3ES-C5018-00
M1.4 x 0.30	3.00	0.50	-	2.20	-	2.56	1.35	3ES-C5019-00
SURFACE TYPE - STAINLESS STEEL								
M1.6 x 0.35	3.20	0.80	3.60	2.60	1.60	2.76	2.40	3ES-C5034-00
M2.0 x 0.40	4.00	0.90	4.30	3.30	1.90	3.34	2.80	3ES-C5035-00
M2.5 x 0.45	5.00	1.00	5.50	4.10	2.10	4.16	3.10	3ES-C5036-00
M3.0 x 0.50	6.00	1.10	6.50	4.90	2.30	5.00	3.40	3ES-C5037-00
M3.5 x 0.60	7.00	1.30	7.50	5.60	2.80	5.84	4.10	3ES-C5038-00
M4.0 x 0.70	8.00	1.50	8.50	6.50	3.20	6.70	4.70	3ES-C5039-00
M5.0 x 0.80	10.00	1.60	11.80	8.20	3.70	8.30	5.30	3ES-C5040-00

Spiralock® is a technically superior internal thread form that can be applied to internally threaded products to create ultimate vibration resistance, improve load distribution and joint integrity without the need for a locking patch. For more information on Spiralock® CONTACT US.

ULTRA STANDOFF

Shouldered Screws with Female Internal Threads

Overview

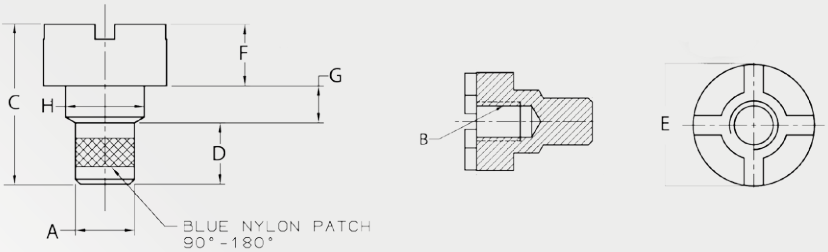
STANLEY Engineered Fastenings Ultra Standoff screw consists of a shouldered (machine thread) screw with internal female threads located in the head, underneath a special drive recess.

Features and Benefits

/ Creates a miniature Standoff for use with miniature inserts (Dodge®) and tapped housings
/ Ideal for restricted space applications
/ Provides reusable load bearing threads
/ Join two objects spaced part from each other utilizing a single location
/ Nylon locking patch for vibration resistance
/ Unique Ultra Standoff drive bit

Specifications

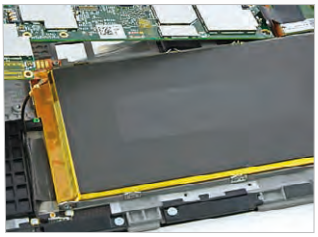
/ External Threads: M1.2 X P0.25-6h
/ Internal Threads: M1.0 X P0.25-5H
/ Material: Stainless Steel
/ Head Style: Cheese Head
/ Drive System: Ultra Standoff



Part Number	Description	Thread size (external) A	Thread size (internal) B	C	D	E	F	G	H
3ES-S5022-00	M1.2 X 2.85 X P0.25-6h	M1.2	M1.0	2.85	1.00	2.50	1.00	1.85	1.6
3ES-S5021-00	M1.2 X 3.25 X P0.25-6h	M1.2	M1.0	3.25	1.25	2.50	1.25	2.00	1.6

Assembly Applications

SMART PHONES



TABLETS

PART NO. 357-TS001-61

IPX7

applicable markets /

SPIRALOCK®

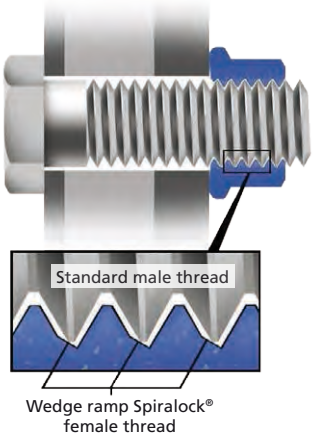
Fasteners & Threading Tools

Overview

Spiralock is a unique and proprietary preload locking internal (female) thread form that's exceptionally resistant to transverse vibration - the primary cause of thread loosening. Proven in thousands of applications, Spiralock threaded holes and nuts accept standard male fasteners, eliminate the need for other locking devices, and substantially reduce the potential for fatigue failure when compared to standard threads.

Features and Benefits

/ Exceptionally resistant to vibration loosening
/ Eliminates need for other locking devices
/ Accepts standard male fasteners
/ Improves joint fatigue life
/ Consistent reusability
/ Eases assembly, reducing assembly time
/ Reduces life cycle cost of threaded joints
/ Product offering: Nuts, Self-Clinching Nuts, Wire Inserts, Threaded Inserts, Taps, Threading Inserts, Thread Gages, Thread Milling Cutters

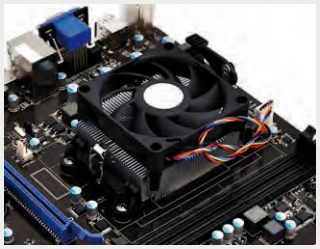


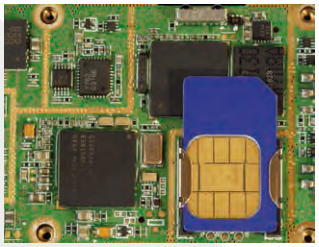
Wedge ramp Spiralock® female thread

Explainer Video

Please take a moment to watch this short explainer video about the Spiralock thread form on www.StanleyEngineeredFastening.com/product-brands/spiralock

Assembly Applications


FAN MODULES


SMART PHONES


PRINTERS


MEDICAL EQUIPMENT

DEMO

applicable markets /

ACU® COAT

High Performance Cosmetic Eco-Coating

Overview

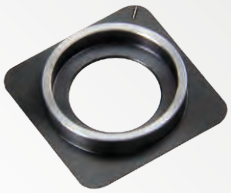
ACU® modified acrylic, multilayer, dry touch coatings are engineered to provide durable, corrosion resistant, environmentally friendly, color matching finish, free of chromates and silicates. ACU® coat is low friction finish allowing consistent torque-tension relationships without need for post-coating lubricants.

Features and Benefits

/ Maximizes fastener performance
/ RoHS compliant (chrome free)
/ Available in matching colors with a smooth satin finish
/ Low friction – eliminates the need for post-coating lubricants
/ No introduced hydrogen – eliminating possible hydrogen embrittlement concerns of electroplating
/ Durable tough finish – doesn't come off during handling or repeat installations
/ Uniform coating thickness minimizes recess fill
/ More eco-friendly coating than those with plated zinc or other traditional finishes

Gemstone™ cosmetic and performance product finishes enhance a products look and physical performance. A range of cosmetic machine finishes for aesthetics and performance coatings are detailed in this catalogue; look for the pages featuring the Gemstone logo. Our capabilities even include application of Braille for the visually impaired

Assembly Applications



Acu® Black Eco-Coating is included as standard on all the screws featured in this catalogue

applicable markets /

OPTIA®

Ultimate Clean Room Coating

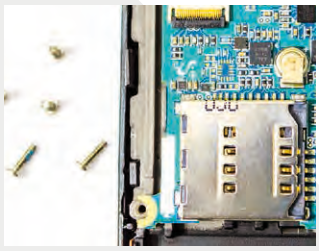
Overview

Optia® thin-film, lubricious polymer covering specifically developed for the electronics industry. It minimizes friction and particle generation in fasteners as small as M0.8 diameter, while the decreased k factor provides higher clamp force with less seating torque.

Features and Benefits

/ Extremely clean screws ideally suited for high capacity disk drives
/ Zero defect assembly and manufacturing processes to optimize yield
/ Faster assembly through automation and reduced torque-related line failures
/ Minimized debris generation
/ Compliance with hazardous substances restrictions RoHS and WEEE
/ Meets or exceeds Class 100 Clean Room requirements
/ Reduced seating torque reduces strip out which enables the use of lower profile heads
/ 0.5µm Thin layer coating avoids recess fill and does not require fastener tolerance adjustments
/ Decreased k factor (torque coefficient or nut factor) provides higher clamp force with less seating torque

Assembly Applications



MOBILE DEVICES

TABLETS

HDD

applicable markets /

PVD COATING

Physical Vapor Deposition
Cosmetic Performance Coating

Overview

PVD is a premium performance environmentally friendly coating that offers exceptional resistance to corrosion, abrasion and UV light. PVD coated products have a clean vivid color finish, ideal for aesthetic and repeated handling applications on mobile devices and home media products. PVD is used in multiple electronics applications due to it's hardness, adhesion and corrosion properties combined with low friction coefficient. PVD is applied by vaporizing materials in vacuum coating conditions.

Features and Benefits

/ Thin film environmentally friendly coating
/ Produces high quality vivid colors
/ High corrosion and abrasion resistance
/ Color resistant to UV exposure
/ Reduced friction
/ Cleaning products and sweat resistant

PVD is applied by vaporizing materials in vacuum coating conditions.

For further information on any of the Gemstone™ coatings and finishes featured in this catalogue please CONTACT US

Stanley Engineered Fastening; creating products that look as good as they perform

applicable markets /

CNC MACHINE FINISHES

Gemstone™
Cosmetic and Performance Product Finishes

Precision Quality Cosmetic Finishes

Overview

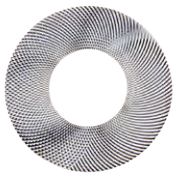
Unique design custom CNC and machine finishes can be applied to fasteners and trim components to complement and enhance the aesthetics of modern electronic devices.

Features and Benefits

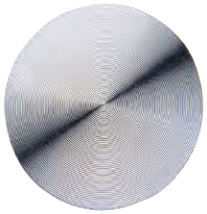
/ Fasteners that improve rather than detract from product aesthetics
/ Create a high quality feel to the product
/ Showcases attention to detail of the design
/ Differentiates the final assembly from copy products and fakes
/ Possible to create texture and braille to touchable components
/ Wide range of designs and custom finishes available

Specialist Custom CNC Finishes

Amberine™
sunflower spiral



Zirconite™
glimmer spiral



Tanzanite™
CD finish

DiamondHD™
dynamic cut

applicable markets /

COLD FORMED SPECIALS

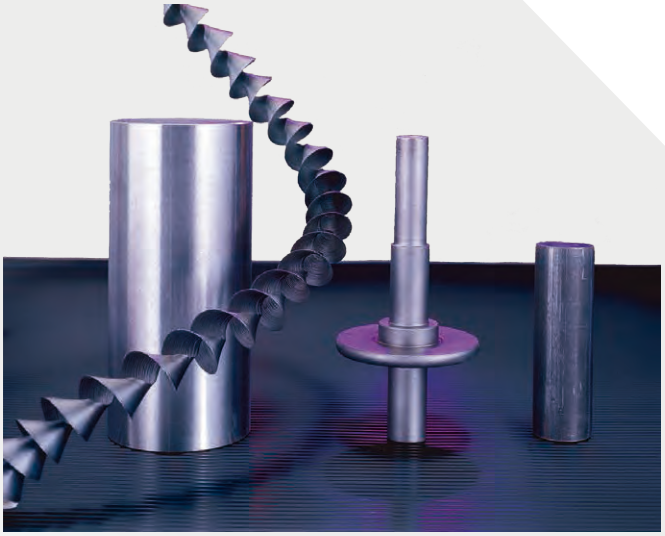
Precision Cold Formed Components

Overview

STANLEY Engineered Fastening is a specialist in cold forming (cold heading) complex forms without causing scrap material. Since raw material can be the most expensive aspect of a part, cold forming is often a lower cost alternative to screw machining and other manufacturing methods. Our advanced cold forming technology and expertise allows for increasingly complex components to be manufactured at very high production rates.

Features and Benefits

/ Highly technical cold formed parts
/ Reduced component cost
/ Less scrap material
/ Enhanced grain flow and component strength
/ Ideal for high production volumes
/ Full engineering and design services
/ Can be combined with secondary CNC operations



The cold formed cut off (right) is often significantly smaller than the screw machined blank (left) required to form the same part (shown in the middle).

Cold formed cut-off: 326 lbs./1000 pcs.
Screw machined blank: 3,000 lbs/1000 pcs.
Raw material savings: 2,674 lbs/1000 pcs.

applicable markets /

PRECISION CNC

High End Precision Machined Parts

Overview

Our proprietary CNC capabilities enable us to create parts with enhanced aesthetics, textures and degrees of precision not seen before from mechanical electronics components manufacturers. Precision CNC parts offer the most precise tolerances, they can be made in a wide range of materials and sizes including titanium and aluminum in micro miniature components, ideally suited to consumer electronics applications.

Features and Benefits

/ Precision CNC capabilities in three continents
/ High production volume competency
/ Short run and rapid prototyping expertise
/ Full engineering and CNC design services
/ Range of aesthetic finishes can be applied
/ Fast high volume production machines
/ Advanced 4 axis machines for highly complex parts

applicable markets /

MICRO STAMPINGS

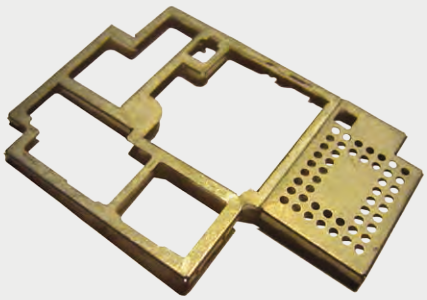
Precision Micro Stamped Components

Overview

STANLEY Engineered Fastening offers a wide range of precision micro stampings for the electronics industry. Our high speed mirco stamping technology is efficient and enables the production of technically complex parts in a range of different materials. Our high volume progressive die production equipment and expert engineering team support custom designs and utilize wire Electrical Discharge Machining (EDM) and secondary stamping operations for small volume prototyping.

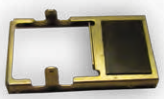
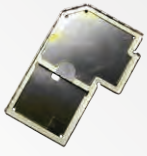
Features and Benefits

/ Technically complex part capabilities
/ Ideal for high production volumes
/ Full engineering and design services
/ Intricate shapes and sizes
/ Range of standard and exotic materials available
/ Made to customer specification
/ Can be applied in Tape and Reel











applicable markets /

TAPE AND REEL

Components Supplied in Tape and Reel

Overview

Tape and Reel delivery systems offer extensive benefits to electronics production environments, especially those invested in surface mount technology. STANLEY Engineered Fastening offers a variety of performance tape and reel delivery systems to meet customer demands and protect the parts from moisture, particles and blemishes that can occur during shipping and placement. Components are fed indexed in consistent orientation for high speed pick and place assembly machines, ensuring quality electronic assemblies.

Features and Benefits

/ Maintains clean dust and moisture free components
/ Aides handling of miniature components
/ Ideal for automated pick and place systems
/ Range of different tape materials to customer specification
/ Reel sizes available to customer specification
/ Protects aesthetic finished components

MICRO PINS

Micro machined or cold formed pins

Overview

Micro pins are prevalent in many modern electronic devices from hinge pins in tablets and laptops to spacer pins and dowel pins used in home media devices. Our cold forming and micro machining capabilities enable us to offer the most cost effective solutions to meet customer needs.

Features and Benefits

/ High quality precision parts
/ Range of different materials available
/ Designed to customer specification
/ Complex, high volume, cold formed production
/ Short run and rapid prototyping expertise

applicable markets /

POP® Avdel®

DOUBLE FLUSH CHOBERT®

Flush Speed Fastening® for Applications in Exceptionally Thin Sheet Materials

Overview

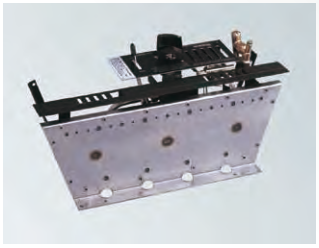
Speed Fastening® rivet with countersunk head for use in exceptionally thin sheet materials. Based on the original Avdel® Chobert® design, it's an ideal solution for fastening in the electronics industry and other applications where rear protrusion and rivet stem loosening are undesirable.

Features and Benefits

/ Flush surface on both sides of the joint*
/ Reduces excess space requirements within the chassis
/ Common hole form can be used throughout the chassis design to reduce complexity
/ Expands radially in the material during installation
/ Can be installed from either direction if accessible
/ Provides superior joint strength when compared to competitive technologies
/ One-piece fastener eliminates potential stem fall out that can cause electrical problems

Assembly Applications

COMPUTER CHASSIS



HOUSEHOLD APPLIANCES

SERVER CHASSIS

PRINTERS

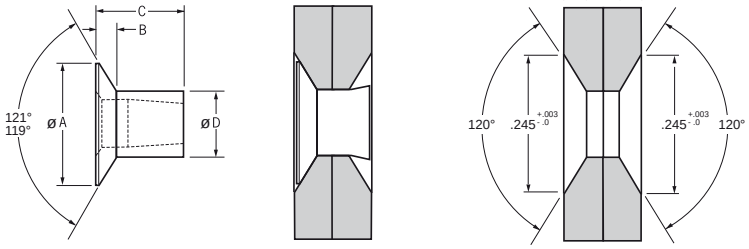
applicable markets /

DEMO

DOUBLE FLUSH CHOBERT®

Specifications

/ Sizes: 1/8" (3.2 mm)
/ Materials: Steel
/ Head Styles: Countersunk
/ Finish: Zinc + Clear Passivation

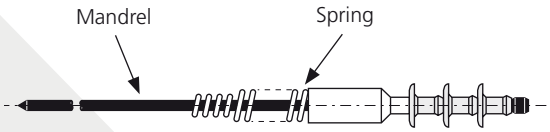


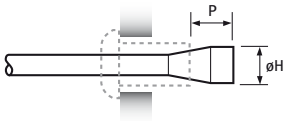
*Rear sheet tail protrusion of installed fastener is application dependent - up to .020" (0.5mm) is permissible.

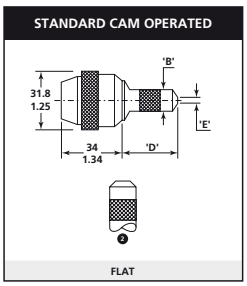
ø			øA	B	C	øD			Fasteners per pod	
nom.	min.	max.	min.	max.	max.	max.	max.	max.	lbf[1] (kN[1])	lbf[1] (kN[1])	typical	Part No
1/8" (3.2 mm)	.078 (2.0)	.105 (2.67)	.129 (3.28)	.131 (3.33)	.215 (5.46)	.030 (0.76)	.098 (2.49)	.128 (3.25)	229 (1.02)	341 (1.52)	120	G0110-11708
	.095 (2.41)	.115 (2.92)					.110 (2.79)				112	G0110-11294

All dimensions in inches (Millimeters) 1) - typical values.

Double Flush Chobert® Mandrel and Spring Information







ø nom.		Description	ø H	P max.	Mandrel Part No	Spring Part No.	Nose Assembly
3.2 (1/8") Double Flush Chobert®	as rec.	Standard green	.088 (2.24)	.090 (2.29)	07150-08004	07271-06630	07537-03100
	+ .004 (0.10)	1. Oversize yellow	.092 (2.34)	.098 (2.49)	07150-08104		
	+ .010 (0.25)	2. Oversize blue	.098 (2.49)	.110 (2.79)	07150-08204		

All dimensions in inches (Millimeters).

DEMO

POP® Avdel®

NEOSPEED®

The Strongest, Most Versatile Speed Fastening® System available

Overview

NeoSpeed® fasteners feature a unique splined body design that creates high clamp and a wide grip range. The most versatile Speed Fastening® system ever made outperforms breakstem rivet alternatives while minimizing installation times to under 2 seconds per rivet.

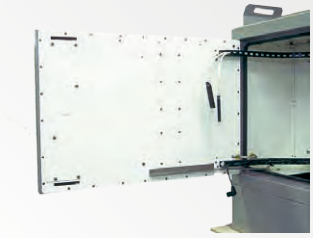
Features and Benefits

/ Up to four times greater throughput than traditional threaded or breakstem fasteners
/ Multi-grip capability accommodates wide variations in material thickness
/ One rivet can be used to replace several standard grip fasteners
/ Splines create hole fill in rear sheet and oversize front sheet holes offering greater performance and vibration resistance
/ 3x greater hole size tolerance than standard breakstem rivets
/ Less sensitive to application variations
/ Simple tooling and fastener specification
/ Typically half the installed weight versus an equivalent breakstem rivet

Assembly Applications

COMPUTER CHASSIS

LED LIGHTING



TELECOMS EQUIPMENT

PRINTERS

applicable markets /

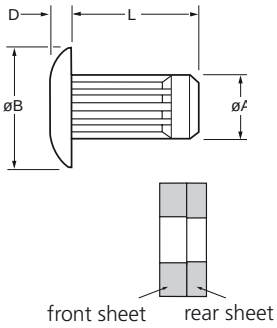
DEMO

NEOSPEED®

Specifications

/ Sizes: 1/8" – 3/16" (3.2mm - 4.8mm)
/ Head Styles: Mushroom, Countersunk
/ Material: Steel, Aluminum
/ Plating: Zinc + Clear Passivation (Steel)

ø nom.	øB max.	D max.	øA max.
1/8" (3.2 mm)	.257 (6.53)	.043 (1.10)	.1245 (3.17)
	.230 (5.84)	.0315 (0.80)	.1245 (3.17)
5/32" (4.0 mm)	.322 (8.18)	.049 (1.25)	.1535 (3.90)
3/16" (4.8 mm)	.382 (9.71)	.059 (1.50)	.1885 (4.79)



ø	front sheet		rear sheet		L	Aluminum Alloy		Part No.	Steel Zinc + clear passivate		Part No.
nom.	min.	max.	min.	max.	max.	lbf[1] (kN)	lbf[1] (kN)		lbf[1] (kN)	lbf[1] (kN)	
1/8" (3.2 mm)	.016 (0.4)	.079 (2.0)	.1319 (3.35)	.1425 (3.62)	.1283 (3.26)	.1346 (3.42)	.187 (4.8)	170 (0.76)	281 (1.25)	G0501-03204	260 (1.16)	420 (1.87)	G0521-03204
		.177 (4.5)					.287 (7.3)			G0501-03207			G0521-03207
	.039 (1.0)	.079* (2.0)	.1283 (3.26)	.1315 (3.34)			.187 (4.8)			Coming Soon	211 (0.94)	431 (1.92)	G0621-03204
		.177* (4.5)					.287 (7.3)			Coming Soon			G0621-03207
5/32" (4.0 mm)	.020 (0.5)	.086 (2.2)	.1614 (4.10)	.1744 (4.43)	.1563 (3.97)	.1646 (4.18)	.213 (5.4)	267 (1.19)	427 (1.90)	G0501-04005	404 (1.80)	674 (3.00)	G0521-04005
		.197 (5.0)					.315 (8.0)			G0501-04007			G0521-04007
3/16 (4.8 mm)	.024 (0.6)	.204 (5.2)	.1969 (5.00)	.2126 (5.40)	.1909 (4.85)	.2008 (5.10)	.350 (8.9)	373 (1.66)	651 (2.90)	G0501-04808	539 (2.60)	944 (4.20)	G0521-04808
		.362 (9.2)					.500 (12.7)			G0501-04812			G0521-04812

All dimensions in inches (Millimeters)., 1) typical values. *Countersunk

Installation tools

The NeoSpeed® rivets can be placed with the Avdel installation tools type 7530, 7537 and 7271 using the following installation equipment. For further information please visit our website or contact your local representative.

ø nom.	Nose Equipment Part No.	Mandrel Part No.	Follower Spring Part No.
1/8" (3.2 mm)	07530-03200	07530-06014	07150-06814
1/8" (3.2 mm) CSK	07170-03104		
5/32" (4.0 mm)	07530-03300	07530-06015	07170-06875
3/16" (4.8 mm)	07530-03400	07530-06016	07170-06876

DEMO

***TRY** it / **TEST** it / **CUSTOMIZE** it*

RIVSCREW®

Threaded, Removable Speed Fastening® Rivets

Overview

Rivscrew® Speed Fasteners feature an external machine screw thread that expands radially into the application material during the initial installation process. The resulting assembly creates a fully vibration resistant joint with the speed of rivet placement and the functional removability of a screw.

Features and Benefits

/ Expands radially during installation to form a thread in host material, eliminating the risk of over torquing and strip-out
/ Placed using a hexagon mandrel which expands the threaded diameter radially, adjacent to its six corners
/ Removable for servicing with a hex key and reusable
/ Providing a higher vibration resistant "thread lock" in the parent material compared to standard screws
/ Can be used to fasten most materials up to Vickers hardness 105 Hv5
/ Eliminates the need for costly tapping or thread forming operations
/ Optional bright tin plated steel version for ease of soldering and good electrical conductivity
/ Can be bowl fed for larger volume applications using automated equipment

Assembly Applications

SEMI CONDUCTORS, HEAT-SINKS PCBS

DIE-CAST CHASSIS WITH PCB

HEATSINKS TO PROCESSOR CARTRIDGES

FLAT PANEL DISPLAYS

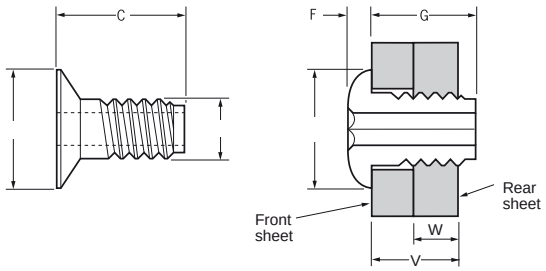
applicable markets /

DEMO

RIVSCREW®

Specifications

/ Sizes: 3.0mm – 3.5mm
/ Head Styles: Dome
/ Material: Low Carbon Steel
/ Plating: Zinc + Clear Passivation (Steel)



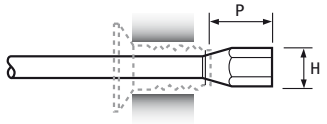
ø	ø D	Front sheet		Rear sheet		A	C	W	V	E[1]	F[1]	G	Fasteners per pod	Part No
nom.	max.	min.	max.	min.	max.	max.	max.	min.	max.	max.	max.	max.	± 1	
3.0 mm	.1107 (2.8)	.121 (3.07)	.124 (3.15)	.111 (2.82)	.114 (2.89)	.230 (5.7)	.202 (5.2)	.064 (1.62)	.112 (2.85)	.240 (6.1)	.055 (1.4)	.157 (4.0)	62	G0222-03006
							.241 (6.1)		.151 (3.85)			.196 (5.0)	52	G0222-03007
							.280 (7.1)		.190 (4.83)			.235 (6.0)	43	G0222-03009
							.319 (8.1)		.229 (5.82)			.274 (7.0)	38	G0222-03010
							.359 (9.1)		.268 (6.81)			.314 (8.0)	34	G0222-03011
							.397 (10.1)		.307 (7.80)			.352 (9.0)	30	G0222-03012
3.5 mm	.1215 (3.1)	.138 (4.19)	.141 (4.27)	.122 (3.61)	.125 (3.68)	.235 (6.0)	.202 (5.2)	.064 (1.62)	.112 (2.85)	.240 (6.1)	.055 (1.4)	.157 (4.0)	62	G0222-03506
							.241 (6.1)		.151 (3.85)			.196 (5.0)	52	G0222-03507
							.280 (7.1)		.190 (4.83)			.235 (6.0)	43	G0222-03509
							.319 (8.1)		.229 (5.82)			.274 (7.0)	38	G0222-03510
							.397 (10.1)		307 (7.80)			.352 (9.0)	30	G0222-03512

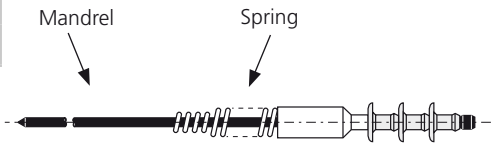
All dimensions in inches (Millimeters). 1) dimensions E and F are generated during the installation process and should only be used as an indication of the minimum space required.

Rivscrew® Mandrel and Spring Information

ø	Nose	H A/F	P	Mandrel	Spring
nom.	Part No/ref.		max.	Part No/ref	Part No/ref
RIVSCREW® G0222					
3.0 mm	07271-03000	.065 (1.65)	.127 (3.23)	07271-06030	07271-06630
3.5 mm	07271-03500	.0825 (2.10)	.132 (3.35)	07271-06035	07271-06635

All dimensions in inches (Millimeters)





DEMO

***TRY** it / **TEST** it / **CUSTOMIZE** it*

RIVSCREW® PL

Threaded, Removable Speed Fastening® Rivets for Plastics

Overview

Rivscrew® PL Speed Fasteners feature an external coarse screw thread that expands radially into the application material during the initial installation process. The resulting assembly creates a fully vibration resistant joint with the speed of rivet placement and the functional removability of a screw in a wide range of plastic materials.

Features and Benefits

- / Especially designed for soft and hard plastics
- / Wide grip range from 3.0 to 11.8 mm covered by one fastener
- / Expands radially during installation to form a thread in host material, eliminating the risk of over torquing and strip-out
- / Placed using a hexagon mandrel which expands the threaded diameter radially, adjacent to its six corners
- / Removable for servicing with a hex key and reusable
- / Providing a higher vibration resistant "thread lock" in the parent material compared to standard screws
- / Can be bowl fed for larger volume applications using automated equipment
- / Special thread design for a wide range of plastics with a flexural modulus between 340,000 and 1,400,000 PSI (2,000 to 10,000 N/mm²).

Assembly Applications

LIGHTING

SPEAKERS

PRINTERS

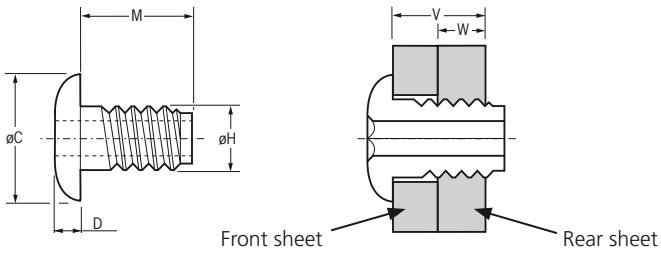
applicable markets /

DEMO

RIVSCREW® PL

Specifications

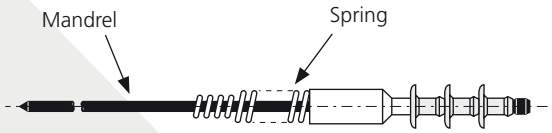
/ Sizes: 3.5mm – 4.0mm
/ Head Styles: Dome
/ Material: Low Carbon Steel
/ Plating: Zinc + Clear Passivation (Steel)

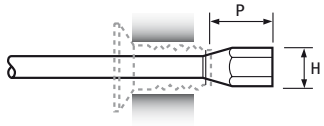


ø	ø H		Front sheet		Rear sheet		øC	D	M	W	V	Hex Key Size	Part No
nom.	min.	max.	min.	max.	min.	max.	max.	max.	max.	min.	max.		
3.5 mm	.1180 (3.0)	.1215 (3.09)	.139 (3.53)	.142 (3.63)	.122 (3.10)	.125 (3.18)	.244 (6.0)	.047 (1.09)	.273 (6.93)	.110 (2.79)	.215 (5.46)	1/16" (1.60)	G0242-03508
									.398 (10.11)		.340 (8.64)		G0242-03512
4.0 mm	.1295 (3.29)	.1334 (3.39)	.161 (4.09)	.164 (4.17)	.1338 (3.40)	.1368 (3.47)	.319 (7.9)		.273 (6.93)	.120 (3.04)	.215 (5.46)	5/64" (2.00)	G0242-04008
									.398 (10.11)		.340 (8.64)		G0242-04012

All dimensions in inches (Millimeters).

Rivscrew® PL Mandrel and Spring Information





ø	Nose	H A/F	P	Mandrel	Spring
nom.	Part No.		max.	Part No.	Part No.
RIVSCREW® PL G0242					
3.5 mm	07170-04600	.065 (1.65)	.147 (3.75)	07279-06429	07271-06630
4.0 mm	07150-03005	.0825 (2.10)	.132 (3.35)	07271-06035	07271-06635

All dimensions in inches (Millimeters).

DEMO

AVIBULB® / AVINOX®

High Strength Rivets for Enclosures and Thin Sheet Metal Assembly

AVINOX®

AVIBULB®

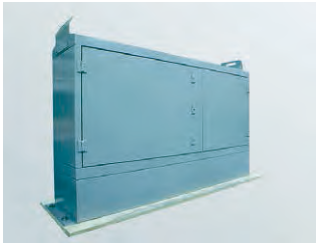
Overview

Avdel® Avibulb® and Avinox® bulbing rivets offer a high-strength fastening solution ideal for thin sheet metals. The rivets provides excellent bulbing tail formation, high shear and tensile strength and good hole fill, which helps to compensate for irregular, oversized or misaligned holes.

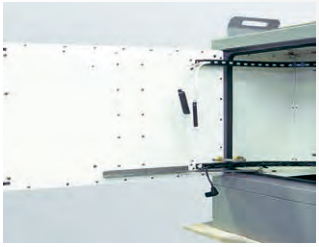
Features and Benefits

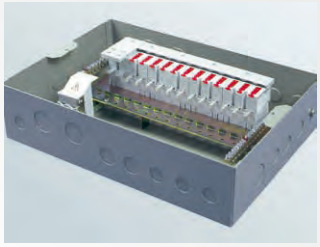
/ High shear and tensile strength providing strong, vibration resistant joints
/ Stainless steel Avinox® for high corrosion resistance and applications requiring elevated temperatures
/ Provides a large blind side bearing area against the rear sheet, making it ideal for use in thin sheet materials
/ Good hole fill compensates for irregular, oversized, slotted or misaligned holes
/ Retained stem avoids damage, electrical problems or rattling caused by loose stems

Assembly Applications



TELECOMMUNICATIONS CABINETS





SWITCH GEAR

COMPUTER CHASSIS

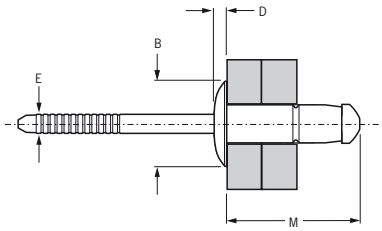
applicable markets /

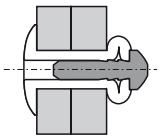
DEMO

AVIBULB® / AVINOX®

Specifications

/ Sizes: 1/8" to 3/16" (3.2 mm to 4.8 mm)
/ Material: Steel and Stainless Steel
/ Head Styles: Dome
/ Plating: Zinc + Clear Passivation (Avibulb®)





AVIBULB® - STEEL RIVETS

ø					M	B	D	E			
nom.	min.	max.	min.	max.	max.	max.	max.	max.	lbf[1)2)] (kN)	lbf[1)]	Part No
1/8" (3.2 mm)	.039 (1.0)	.118 (3.0)	.130 (3.3)	.134 (3.4)	.358 (9.1)	.268 (6.8)	.055 (1.4)	.080 (2.0)	270 (1.2)	292 (1.3)	G0401-00408
	.118 (3.0)	.197 (5.0)			.461 (11.7)				393 (1.7)		G0401-00411
	.197 (5.0)	.276 (7.0)			.551 (14.0)				562 (2.5)		G0401-00414
5/32" (4.0 mm)	.039 (1.0)	.118 (3.0)	.161 (4.1)	.169 (4.3)	.409 (10.9)	.315 (8.0)	.059 (1.5)	.103 (2.6)	539 (2.4)	629 (2.8)	G0401-00509
	.118 (3.0)	.197 (5.0)			.508 (12.4)				787 (3.5)		G0401-00512
	.197 (5.0)	.276 (7.0)			.618 (15.7)				921 (4.1)		G0401-00516
3/16" (4.8 mm)	.059 (1.5)	.138 (3.5)	.193 (4.9)	.201 (5.1)	.476 (12.1)	.378 (9.6)	.059 (1.5)	.126 (3.2)	809 (3.6)	854 (3.8)	G0401-00611
	.138 (3.5)	.236 (6.0)			.579 (14.7)				944 (4.2)		G0401-00614
	.236 (6.0)	.335 (8.5)			.693 (17.6)				1258 (5.6)		G0401-00618

AVINOX® - STAINLESS STEEL RIVETS

ø					M	B	D	E			
nom.	min.	max.	min.	max.	max.	max.	max.	max.	lbf[1)2)] (kN)	lbf[1)] (kN)	Part No
1/8" (3.2 mm)	.039 (1.0)	.118 (3.0)	.130 (3.3)	.134 (3.4)	.360 (9.0)	.260 (6.6)	.043 (1.1)	.083 (2.1)	360 (1.6)	450 (2.0)	G0361-00408
	.118 (3.0)	.197 (5.0)			.460 (11.5)				382 (1.7)		G0361-00411
	.197 (5.0)	.276 (7.0)			.560 (14.1)				719 (3.2)		G0361-00414
5/32" (4.0 mm)	.039 (1.0)	.118 (3.0)	.161 (4.1)	.169 (4.3)	.410 (10.3)	.315 (8.0)	.059 (1.5)	.102 (2.6)	629 (2.8)	899 (4.0)	G0361-00509
	.118 (3.0)	.197 (5.0)			.510 (12.9)				1169 (5.2)		G0361-00512
	.197 (5.0)	.276 (7.0)			.620 (15.6)				1169 (5.2)		G0361-00516
3/16" (4.8 mm)	.059 (1.5)	.138 (3.5)	.193 (4.9)	.201 (5.1)	.510 (12.8)	.378 (9.6)	.059 (1.5)	.126 (3.2)	1236 (5.5)	1124 (5.0)	G0361-00611
	.138 (3.5)	.236 (6.0)			.610 (15.4)						G0361-00614
	.236 (6.0)	.335 (8.5)			.730 (18.4)						G0361-00618

All dimensions in inches (Millimeters). 1) typical values. 2) includes stem through shear plane.

DEMO

INSTALLATION TOOLING

Size	Recommended Base Tool	Jaws	Nose	Jaw Pusher
1/8" (3.2 mm)	PROSET1600MCS	13300	PRN414	DPN239-144
5/32" (4.0 mm)	PROSET2500MCS	13300	PRN514	DPN275-028
3/16'' (4.8 mm)	PROSET2500MCS	13300	PRN614	DPN275-027

***TRY** it / **TEST** it / **CUSTOMIZE** it*

CLOSED END RIVETS

Fully Sealed Closed End Rivets

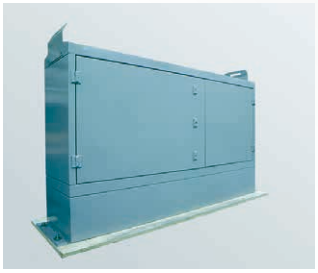
Overview

POP® Closed-End rivets feature a unique cup-shaped end configuration that seals tight, preventing passage of vapor or liquid around or through the set rivet. They generate up to 23% greater tensile strength than equivalent open-end rivets and provide 100% mandrel retention, ideal for electronic enclosure applications.

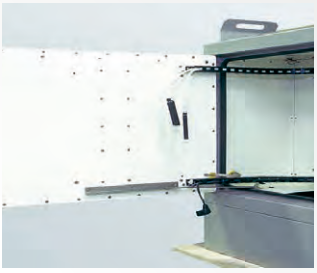
Features and Benefits

/ High shear and tensile strength providing strong, vibration resistant joints
/ Fully sealed joint eliminates ingress of vapor, liquid and debris
/ 100% retained mandrel eliminates NVH and prevents stem falling into electronic assemblies

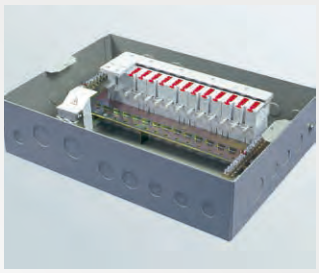
Assembly Applications



TELECOMMUNICATIONS CABINETS



SWITCH GEAR



COMPUTER CHASSIS

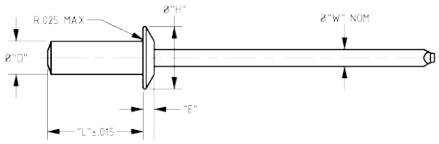
applicable markets /

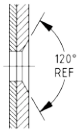
DEMO

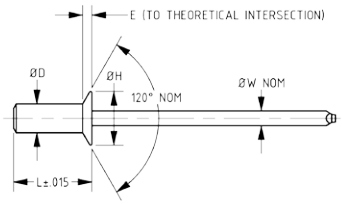
CLOSED END RIVETS

Specifications

/ Sizes: 1/8" to 3/16" (3.2 mm to 4.8 mm)
/ Material: Aluminum Body, Steel Mandrel
/ Head Styles: Dome, Countersunk (CSK)







ø			L		D	E	H	W				
nom.	min.	max.	min.	max.	nom.	min-max.	min-max.	min-max.	max.	lbf (kN)	lbf (kN)	Head	Part No
1/8" (3.2 mm)	.063 (1.6)	.125 (3.2)	.129 (3.28)	.133 (3.38)	.301 (7.7)	.124-.128 (3.15-3.25)	.031-.051 (0.79-1.30)	.224-.248 (5.69-6.30)	.064 (1.63)	305 (1.36)	385 (1.71)	Dome	3ES-R5026-00
	.126 (3.2)	.187 (4.8)			.362 (9.2)								3ES-R5027-00
	.063 (1.6)	.125 (3.2)			.341 (8.7)		.055 max (1.40)	.221-.245 (5.61-6.22)				CSK	3ES-R5029-00
	.126 (3.2)	.187 (4.8)			.402 (10.2)								3ES-R5030-00
3/16'' (4.8 mm)	.188 (4.8)	.250 (6.4)	.192 (4.88)	.196 (4.98)	.455 (11.6)	.186-.191 (4.72-4.85)	.061-.081 (1.55-2.06)	.357-.393 (9.07-9.98)	.104 (2.64)	575 (2.56)	840 (3.74)	Dome	3ES-R5028-00

Dimensions in inches (Millimeters).

INSTALLATION TOOLING

Size	Recommended Base Tool	Jaws	Nose	Jaw Pusher
1/8" (3.2 mm)	PROSET1600MCS	PRG402-8A	PRN434	DPN239-144
3/16'' (4.8 mm)	PROSET2500MCS	13300	PRN634	DPN275-027

DEMO

TRY it / TEST it / CUSTOMIZE it

MICRO RIVETS

2mm Diameter Open End Rivets

Overview

POP® Micro Rivets have a low head height for tight spaces and low rear side protrusion, ideal for PCB's and thin sheet metal applications. Micro Rivets are installed from one side of the work piece delivering low in-place cost and fast assembly. They offer a fast, permanent, vibration resistant joint without deforming the work piece.

Features and Benefits

/ Smallest open end rivet, ideal for thin sheet metal and PCB applications
/ Uniform consistent fastening with simple tooling and minimal operator training
/ Eliminates strip-out and torque failures associated with micro screws
/ Minimal rear side protrusion, excellent in confined space applications
/ Shallow profile head height
/ Ideal for electronics applications

Assembly Applications

COMPUTER CHASSIS

LAPTOP COMPONENTS

LCD ASSEMBLY

MOTHERBOARD ASSEMBLY

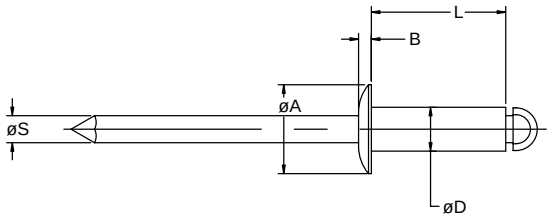
applicable markets /

DEMO

MICRO RIVETS

Specifications

/ Sizes: 2.0mm
/ Material: Aluminum
/ Head Styles: Dome



ø					ø D	L	ø S	ø A	B	
nom.	min.	max.	min.	max.	min-max.	nom.	nom.	nom.	min-max.	Part No.
.079 (2.0mm)	.020 (0.5)	.063 (1.6)	.080 (2.03)	.084 (2.13)	.075-.081 (1.91-2.06)	.161 (4.1)	.043 (1.10)	.141-.156 (3.58-3.96)	.018-.029 (0.46-0.74)	3ES-R5031-00
	.039 (1.0)	.126 (3.2)				.224 (5.7)				3ES-R5032-00
	.126 (3.2)	.189 (4.8)				.291 (7.4)				3ES-R5033-00

Dimensions in inches (Millimeters).

INSTALLATION TOOLING

Recommended Base Tool	Jaws	Nose	Jaw Pusher
PROSET1600MCS	PRG402-02	PRN214	DPN239-144

DEMO

***TRY** it / **TEST** it / **CUSTOMIZE** it*

PULL-THRU (PT) RIVETS

Miniature Double Countersunk Rivets

Overview

POP® Pull-Thru rivets are ideal where clearance is limited and a flush set is required on both sides of the application. The PT rivet is a steel countersunk blind fastener designed to set surface flush on both sides of an application allowing for smaller size chassis and housings. As the name suggests Pull-Thru rivets feature a unique mandrel that does not break, instead pulling all the way through the rivet body and avoiding concerns associated with loose stem heads in electronic applications.

Features and Benefits

/ Flush-set on both sides for double countersunk materials
/ Insertion can be reversed, improving rivet tool access
/ Unique "Pull-Thru" mandrel
/ No mandrel heads remain anywhere in the application
/ Consistent clamp force
/ Tight radial set provides increased structural stiffness
/ Suitable for high-speed automation
/ Can be used with the POP® Rivet Presenter to facilitate cycle times as fast as 2 seconds
/ Colored mandrel options for identification of different sizes

Assembly Applications

COMPUTER CHASSIS

SERVER ASSEMBLY

PRINTERS

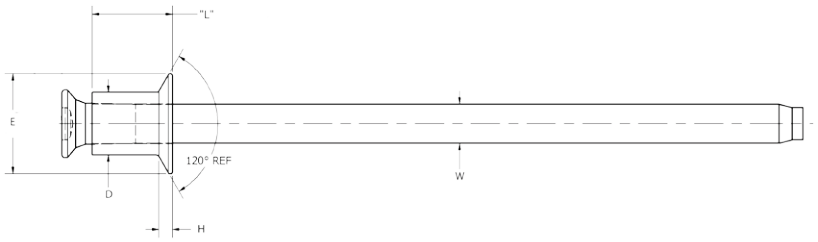
applicable markets /

DEMO

PULL-THRU (PT) RIVETS

Specifications

/ Sizes: 1/8" (3.2 mm)
/ Material: Steel
/ Head Style: Countersunk



ø					L	D	H	E	W			
nom.	min.	max.	min.	max.		min-max.	min-max.	min-max.	nom.	lbs (kN)	lbs (kN)	Part No.
1/8" (3.2 mm)	.059 (1.5)	.079 (2.0)	.129 (3.28)	.134 (3.40)	.098 (2.5)	.114-.121 (2.90-3.07)	.030-.039 (0.76-0.99)	.193-.216 (4.90-5.49)	.072 (1.83)	180 (0.8)	157 (0.7)	3ES-R5023-00
	.079 (2.0)	.098 (2.5)			.110 (2.8)							3ES-R5024-00
	.098 (2.5)	.118 (3.0)			.130 (3.3)							3ES-R5025-00

All dimensions in inches (Millimeters)

INSTALLATION TOOLING

Recommended Base Tool	Jaws	Nose	Jaw Pusher
PROSET1600MCS	13300	PRN414	DPN239-144

DEMO

TRY it / TEST it / CUSTOMIZE it

BREAKSTEM RIVET TOOLS

ProSet® - Compact, Lightweight and Reliable Pneumatic / Hydraulic Power Tools, ideal for Production Line Environments.

Overview

The ProSet® range comprises high performance, lightweight hydro-pneumatic hand tools for breakstem rivets. The tough ergonomic construction allows for swift placement while the light design reduces operator fatigue. Designed for setting rivets from 2mm - 6.4mm and 3/32"-1/4''

Features and Benefits

/ Lightweight robust construction
/ Comfortable two finger, low activation force trigger
/ Directional air exhaust (MCS model)
/ Quick disconnect front-end assembly and Mandrel Collection System (MCS)
/ Suitable for use with POP® Remote Mandrel Collection System (MCS5000)
/ Spring return for a reliable fast setting cycle
/ Energy saving on/off, left or right swivel air fitting
/ POP® Rivet Presenter compatible
/ Available in deflector or MCS versions
/ Air-isolation switch during MCS removal

OPTIONAL ACCESSORIES

Base Tool	Option Part Number	Option Description
Proset1600MCS	FAN239-174	Front End 5" Length Extension Kit
Proset1600MCS & 2500MCS	FA203-408	Adapter Kit for MCS5000 Remote Mandrel Collection System
Proset1600MCS & 2500MCS	MCS5000	Remote Mandrel Collection System
Proset1600MCS & 2500MCS	RP4	Rivet Presenter 1/8" (3.2) Diameter Rivets (Receptacle Needed)
Proset2500MCS	FAN275-132	Front End 5" Length Extension Kit
Proset2500MCS	FAN275-132	Reduced Diameter .686" (17.4mm) Front End Kit
Proset2500MCS	PRH830	Mini Corner Head (Adapter Needed)
Proset2500MCS	PRH840	Medium Corner Head (Adapter Needed)
Proset2500MCS	RP6	Rivet Presenter 3/16" (4.8) Diameter Rivets (Receptacle Needed)

SPEED FASTENING® TOOLS

7530 Hand Tool

High performance, hydro-pneumatic handtool in heavy duty plastic, designed for rapid, blind side installation of speed fasteners. The intensifier is separate from the handtool. One tool places the entire range of speed fasteners.

- / Average cycle time of less than 2 seconds to increase productivity – up to 1500 fasteners per hour
- / High capacity, magazine fed fasteners reduce component handling and subsequent spillage
- / Robust and durable construction makes it suitable for most industrial environments
- / Lightweight construction (split handtool and intensifier) and low actuation recoil reduces operator fatigue
- / Available with in-line handle and top or bottom hose configuration
- / Low maintenance hand tool maximizes productivity and eliminates specialist maintenance training
- / Long life, self priming intensifier provides consistent actuation and resulting joint formation
- / Long reach barrel for use in many restricted access applications

753 STANDARD TOOL

SUSPENDED

AUTOLOAD MK 5

A suspended version is available that can be supported on a balancer to be quickly and easily moved or discarded – reducing downtime and operator fatigue.

The Autoload option provides bowl fed fasteners to minimize reloading downtime and maximise productivity. The fasteners are automatically loaded onto the mandrel. When fasteners on one mandrel are spent, the tool is placed in the nest and the system inserts a fully-loaded replacement into the modified 753 tool. The system features an operator interface board that displays real-time reports on machine cycles and fault diagnostics. The data also can be linked to a network allowing off-site monitoring and maintenance.

7537 Hand Tool

Lightweight, hydro-pneumatic handtool with integrated intensifier places the whole range of speed fasteners.

- / Average cycle time of approx. 1 second increases productivity
- / Integrated intensifier makes it flexible to use in different production environments
- / Toughened plastic body and heavy duty rubber base increase the impact resistance and durability
- / Can place the same range of fasteners and uses the same nose equipment as 7530 hand tool
- / Ease of maintenance due to integral cycle counter

7537 HANDTOOL

DEMO

POP® Avdel®

RIVET AUTOMATION

Workstations and Assembly Systems

Complete workstations for the individual requirements of the electronics industry. Ranging from simple pantograph workstations to multi-head, customized equipment, these systems can dramatically reduce assembly time and costs while improving consistency of placing. Together with the fasteners, these precision tools create a high quality, reliable assembly system.

Handtools and Workstations

Some examples of Avdel installation tools especially suited for the electronics industry:

70510 Under bench workstation

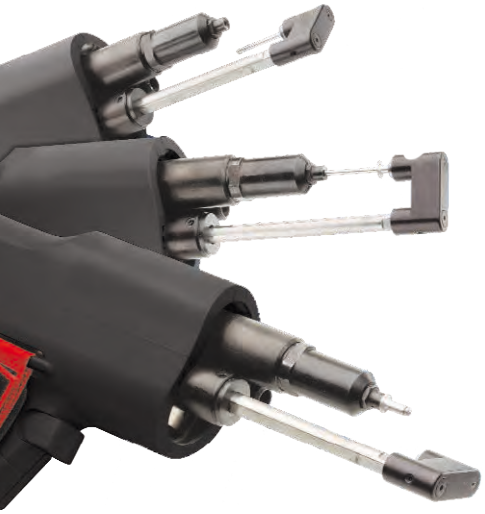
70510 Under bench workstation

Single-head workstations provide rapid assembly, making them cost effective even with small batch sizes. Available as pantograph, fixed arm or under bench workstation.

Mini MAS offers double head parallel riveting and linear positioning of one riveting module for progressive adjustment of the riveting pitch from 29 up to 120 mm (optional 17 -108 mm).

Point and Set portable auto-feed POP® riveting

/ Reliable high-speed riveting up to 35 rivets / minute
/ Feeds 1/8", 5/32" or 3/16" (3.2, 4.0 or 4.8mm) rivets
/ Keeps track of the number of rivets set
/ Collects spent mandrels for recycling
/ Integrated operator interface provides real time feedback
/ Hand tool is lightweight, ergonomic and easily removed for service
/ Uses standard off-the-shelf POP® brand rivets



Rivets are automatically delivered and loaded into the tool.

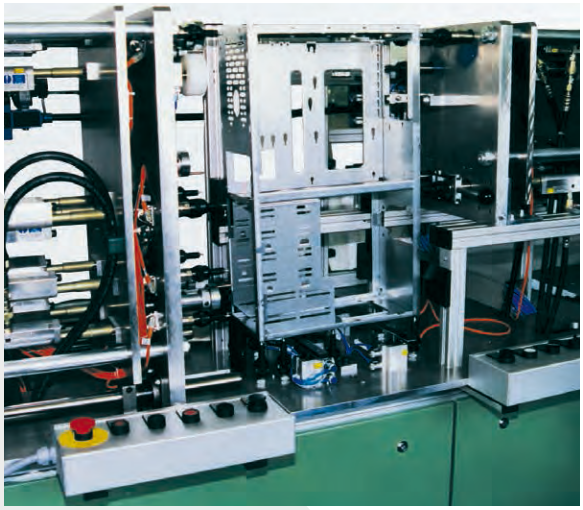
Options include in-line suspended hand tool

applicable markets /

SPEED RIVET AUTOMATION

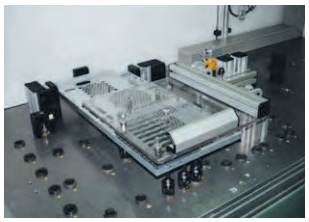
Customized Assembly Solutions

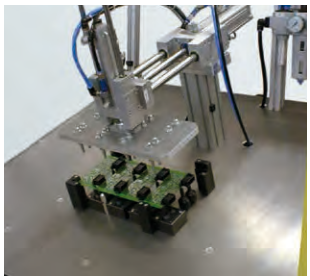
These systems can dramatically reduce assembly time and costs whilst improving consistency due to synchronous placement of multiple fasteners. The direction, type and number of assembly heads can all be customized, the systems can be designed for virtually any application or assembly environment. We have designed equipment from two heads to more than eighty heads; the configurations are almost limitless. Process monitoring equipment or clamping modules can be easily integrated. An additional benefit of these systems are the practical jig points provided by the assembly heads. ESD construction is optional.



29 placing heads to assemble computer chassis using Speed Fastening® rivets.

Speed Fastening® module with rivet process monitoring and release function at balancer arm for assembly of AC converter.





Multiple head workstations especially designed for assembly of various electronic components.

CONTACT US - for further information on design of small, medium and high volume automated systems

applicable markets /

SAMPLE KITS

Electronic Standards Kit

A selection of samples from all product lines featured in this catalog including products from our line of Gemstone™ performance coatings and cosmetic finishes. The Electronics Standards Kit is designed to highlight the quality and range of parts available in the electronics standards line.

PART NUMBER: 3ES-KES01-00

Drive System Kit

All 11 of our Electronic Standards ULTRA HD drive bits with the iSymm® drive alignment feature plus our Ultra Stand-off bit and a STANLEY Engineered Fastening brand drive handle.

PART NUMBER: 3ES-KDB02-00

Preferred Performance Design Kit

We offer our Preferred Performance Design Kit for engineering groups to enhance R&D and accelerate prototype design and assembly.

The kit which is supplied in a high quality Vidmar® storage unit, includes a nominal prototype quantity of all the common sized Electronics Standards covered in this catalog along with an enhanced selection of drive bits. A selection of nose equipment and basic installation components for Speed Fastening® and blind rivet products is also available as an optional addition to the base kit.

PART NUMBER: 3ES-PPD03-00

If you would like further information about our Preferred Performance Design Kit or any of the sample kits detailed on these pages please speak with your local STANLEY Engineered Fastening representative or contact your nearest STANLEY Engineered Fastening location.

REQUEST SAMPLE KITS

DESIGN AND PROTOTYPING

Fast 5 Day Rapid Prototyping

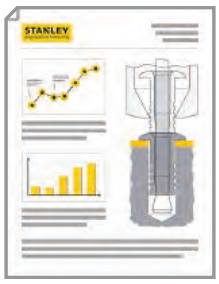
MON

Send us your application parameters or concept fastener print on Monday, from anywhere in the world...

TUE

We apply Finite Element Analysis and 3D modelling to prove out the design and produce rapid tooling components, prototypes and samples

WED



THU

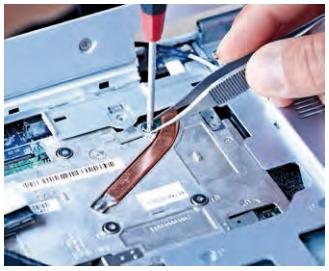
We'll ship out prototype samples with full supporting test data by Friday.

FRI

STANLEY Engineered Fastening is a supply partner to the major electronics industry OEMs, CMs and ODMs. Our Global Electronics Group is lean and fast, equipped to meet the most demanding production lead times and rapid prototype development. Our team of experienced field application engineers have unrivaled depth of knowledge, helping customers reduce manufacturing costs and improve the quality and performance of their products.

***TRY** it / **TEST** it / **CUSTOMIZE** it*

TECHNICAL SUPPORT



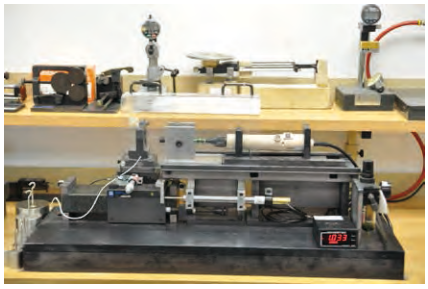
STANLEY Engineered Fastening Value Analysis / Value Engineering services offer a cross-functional, creative and systematic approach to help eliminate waste and improve customer manufacturing processes efficiency and product quality. Our experienced team of application engineers work directly with design and manufacturing professionals and line operators to identify and develop proven Value Analysis / Value Engineering solutions for our customers.

Value Analysis / Value Engineering Services

/ Product Teardown
/ On-Site / On-Line Assembly evaluation
/ Assembly Process Design
/ Fastener Consolidation Program

Application Engineering Services

/ Fastener Selection
/ Application Component Design
/ Joint Analysis
/ Performance and Application Testing
/ Rapid Prototyping
/ Training Seminars



CUSTOMIZATION

Specials

STANLEY Engineered Fastening offers a wide range of special features, coatings and performance enhancing elements for all of the products and tooling in our portfolio. The standard range of products within this catalogue have been optimized for performance and feature sets best suited to the electronics industry, however if you require modifications to any of these designs please don't hesitate to **CONTACT US.**

Below is a list of some of the special options available...

Geometries
/ Special Head Forms
/ Shoulders & Flanges
/ Ultra Standoffs
/ Custom Lengths & Sizes
/ Thread Pitch & Profiles
/ Screw Points / Tips
/ Drive Recesses
/ Knurl Profiles

Coatings & Finishes
/ ACU® Coatings
/ High Corrosion Coatings
/ Cosmetic Finishes
/ Organic Coatings
/ High Lubricity Coating
/ Clean Room Finishes
/ PVD Coatings
/ Colored Anodize
/ Zinc & Nickel Coatings
/ Phosphate
/ Black Oxide

Drive Systems
/ Torx®
/ Torx Plus®
/ Security Torx®
/ Security Torx Plus®
/ 3L Tio® Drive
/ Tri Drive
/ Cross Recess
/ Slotted
/ Hex
/ Custom Specials

Materials
/ Steel Grades
/ Aluminum Grades
/ Stainless Steel Grades
/ Titanium
/ Brass
/ Inconel
/ Monel

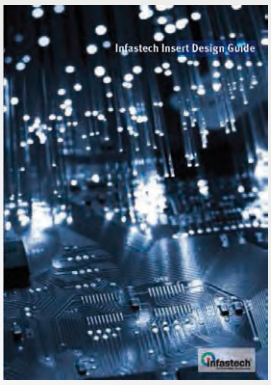
Additional information on the range of special options available can be found in the design guides listed below

Design Guides

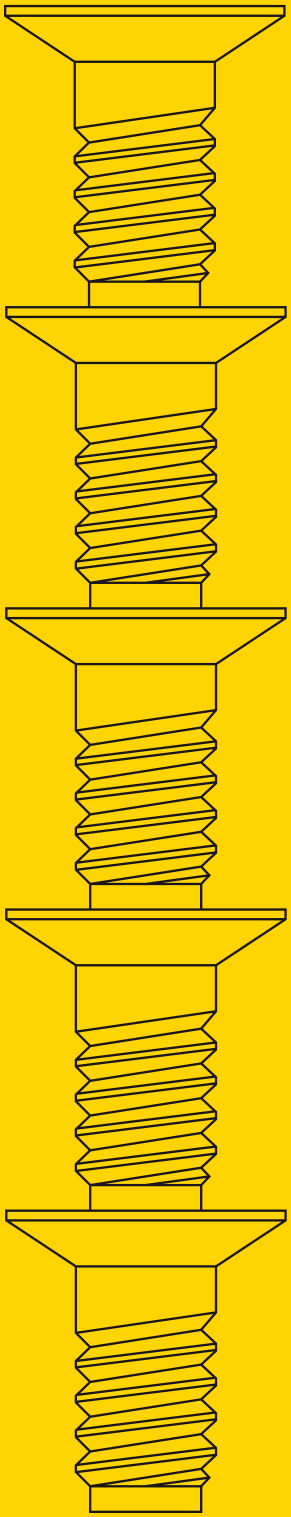
THREAD FORMING FOR METALS

THREAD FORMING FOR PLASTICS

INSERTS DESIGN GUIDE



First Time Right Design Matters™



engineering
design
innovation
quality
expertise/

www.**StanleyEngineeredFastening**.com

STANLEY®
Engineered Fastening

STANLEY Engineered Fastening, a Stanley Black & Decker Inc. Company has been revolutionizing fastening and assembly technologies for a variety of industries for more than 40 years.

For more information, please visit our website
www.StanleyEngineeredFastening.com

Quick Links:

- Our locations
  http://www.stanleyengineeredfastening.com/contact/global-locations
- Request Information
  http://www.stanleyengineeredfastening.com/try-it-test-it-customize-it
- Resource Center
  http://www.stanleyengineeredfastening.com/resource-center