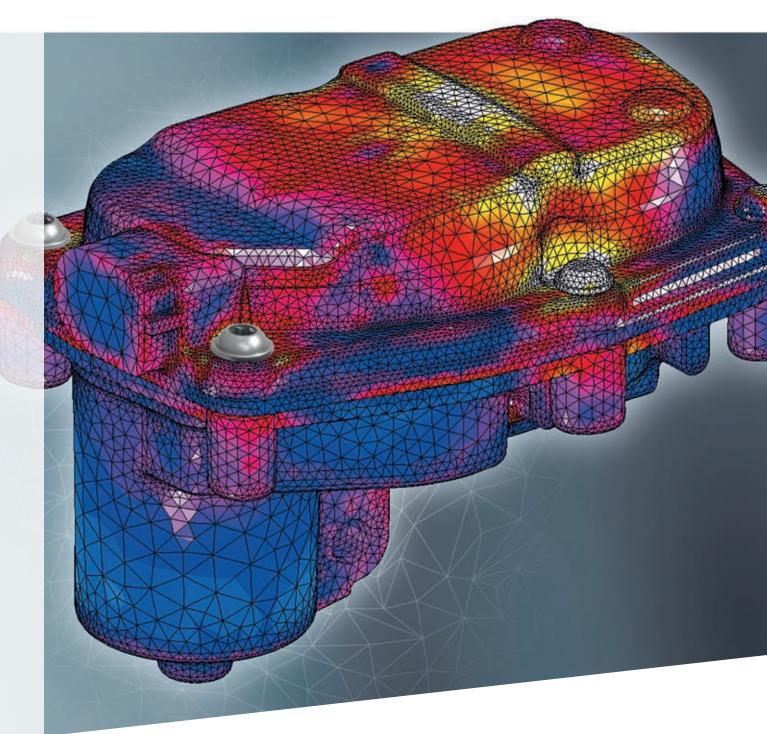
### Industrial fastening solutions Product overview





# Bringing design engineering and intelligent fastening together



Bringing it together.

# Bringing cost-efficiency and system performance together

EJOT turns customer requirements into efficient fastening solutions. For over 100 years this has been our ethos and the foundation that has helped EJOT evolve into an innovative market leader, worldwide.

Today, in addition to the EJOT product range, we offer system performance logic that will help you achieve your objectives more effectively:

- Design engineering support and on-site advice
- Worldwide availability to Just-in-Time (JIT) principles
- Process reliable assembly and high degrees of purity
- 0 ppm target and highest
  possible quality

Fastener costs amount to around 20% of the total joint cost, which means that the system costs make up the remaining 80%.

# EJOT products can reduce the system costs for the joint through higher efficiency and greater productivity.

Our Application Engineers will work with you from the conceptual stages, throughout the development and production process.



















### Cover image:

Taken from a video showcasing EJOT's CAE services. This example is demonstrating the behaviour and effect of the fastening components under various loads, during leakage test forecasting.

### Contents

# Joining metals Page 4 to 11

Fastening solutions for light alloys, thin sheet metals, single-sided assembly and advanced friction-weld technology for ultra-high strength steels.

### Joining thermoplastics Page 12 to 19

Introducing EVO PT<sup>®</sup> and the unique performance benefits that continue to shape the evolution of thermoplastics, from the originators of this specialist joining technology.

# Lightweight foams and composites Page 20 to 23

High strength solutions for super-lightweight engineering materials including EPP foams and sandwich type construction.

# New innovations Page 24 to 25

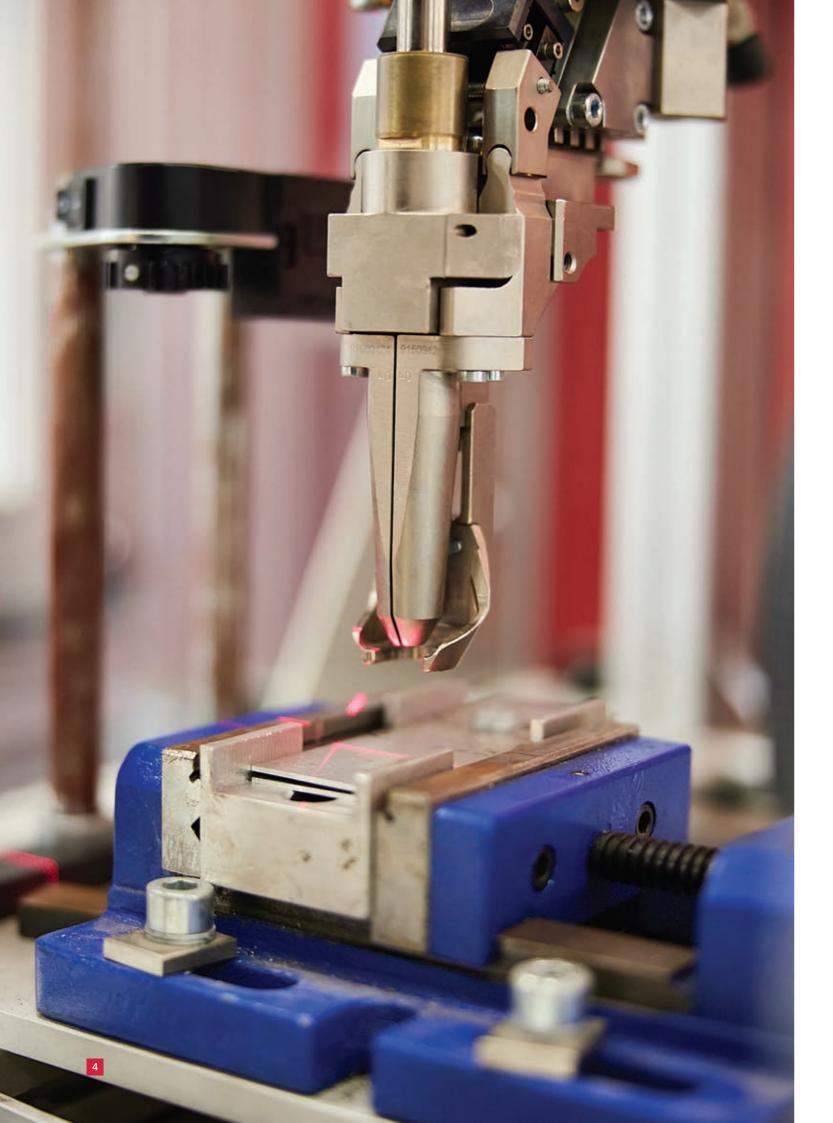
Some of the latest fastening product developments and systems now available from EJOT worldwide.

### EJOT APPLITEC and total project support Page 26 to 27

How EJOT's application engineers utilise calculation software and state-of-the-art testing facilities to support designers locally and worldwide.

# Bringing it all together Page 28 to 29

At-a-glance guide to EJOT's full engineering product portfolio.



components.

Page 6

**SHEETtracs®** Page 7

than 1.5mm thickness.

Page 8

Single sided assembly of sheet metals, delivering exceptional joint performance.

**EJOWELD®** Page 9

sheet boron steel.

metals fastening Page 10

# 1. Joining technologies: METALS

EJOT's joining technologies for modern metals share the common objective to deliver consistent and reliable installation, high strength joint performance and, where possible, rationalised assembly

### Direct thread-forming into cast metals ALtracs<sup>®</sup> Plus

Developed for maximum strength in light alloy assemblies and other non-ferrous metals.

### Joining thin sheet metals

Process-reliable assembly of pre-punched thin sheet less

Single sided assemblies, no pilot hole **FDS®** Flow Drilling Screw

Light metals joined to ultra-strong steels

The advanced technology joining lightweight metals to thin

Ancillary products and services -

# ALtracs<sup>®</sup> Plus

### High strength thread-forming direct into light alloy assemblies.

Designed for direct thread-forming assembly into cast holes, EJOT ALtracs® Plus fasteners are developed for maximum strength values in light alloy assemblies and other non-ferrous metals such as zinc, copper or brass.



### Time and cost-saving advantages

For designers, that means significant cost savings can be realised compared to metric screws by reducing processes such as drilling, thread cutting and cleaning.

ALtracs® Plus offers multiple design advantages including a high self-locking thread design. A combined 33° flank angle and circular cross section also provides metric compatibility with a clamp load and relaxation comparable with metric 10.9 screws.



### **ALtracs® PLUS Product Animation**

EJOT's product animations demonstrate the principle behind specific fastening technologies and some of the design benefits to be gained.



The asymmetrical flank angle of 33 guarantees much higher strength values of the formed female thread root than a common 60° thread.

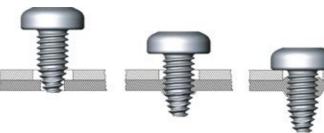
### **Key Characteristics:**

- Direct fix into cast holes without secondary finishing
- Cost savings of up to 40% due to reduced processes
- Metric screws can be used in ALtracs<sup>®</sup> Plus threads
- Circular thread cross section maximum engagement
- High clamp loads and long term stability
- Vibration resistant
- Multiple repeat assemblies possible
- Easy screw application (manual fastening)

# SHEETtracs®

### Vibration resistant joints into pre-punched thin sheet.

The self-tapping EJOT SHEETtracs® fastener provides a safe and secure solution for the process-reliant assembly of pre-punched sheet metal joints of less than 1.5 mm thickness.



### Wide range of application-specific reliability

For assemblies utilising the thinnest sheets in demanding applications, SHEETtracs® offers designers high strength and total performance reliability.

The reduced flank angle of 45° creates a more stable female thread compared to common 60° threads. The formed female thread with a larger thread root results in higher stripping torques and pull-out forces. Additionally the circular cross section maximises the thread engagement area compared to non-circular thread geometries.



### **SHEETtracs® Product Animation**

EJOT's product animations demonstrate the principle behind specific fastening technologies and some of the design benefits to be gained.









The asymmetric 45° flank angle causes smaller material displacement compared to common 60° threads and results in higher strength of the joint.

### **Key Characteristics:**

- High strength of the joint due to the formed draught
- Simple and safe assembly due to good alignment and low installation torque
- Circular thread cross section for maximised thread engagement
- Metric compatibility

# Flow Drilling Screw (FDS<sup>®</sup>)

### Strength, vibration resistance and reliable, single-sided assembly.



Innovative assembly designs require equally innovative joining solutions, exactly like the EJOT FDS® which fastens thin sheet metals to exceptionally high standards, without the need for a pilot hole. One-sided accessibility and fastener removability is equally important when it comes to recyclability.





The polygonal point and the conical thread-forming zone ensure easy flow drilling through heating up of the material.

### A superior joint that transfers high pull-out and shearing forces.

Due to increased thread engagement in the formed draught, a high-strength joint is made without the issue of metal chipping. The result is a joint that transfers high pull-out and shearing forces - a pre-requisite for automotive design!

Without the need for punching or pre-drilling EJOT FDS® joining processes are faster and more efficient. The geometry of the FDS® screw below the screw head is optimised to utilise the displaced material which is absorbed into the space below the screw head.



8

### **Flow Drilling Screw Product Animation**

EJOT's product animations demonstrate the principle behind specific fastening technologies and some of the design benefits to be gained.

### **Key Characteristics:**

- Removable and high quality screw joint, without part preparations - eq. predrilling or punching
- One-sided assembly, no backing device necessary
- No hole overlap problems
- No material waste and no chipping
- High loosening torque and vibration resistance. no need for additional safety elements

# **EJOWELD<sup>®</sup>**

### Lightweight alloys to thin sheet boron steel in under two seconds.

The EJOWELD® process is arguably the most positive response to market demands for lighter vehicles. The system joins lightweight alloys, to thin sheet boron steel of up to 1800 megapascals. Such materials cannot be secured by traditional methods.





### Developed by EJOT and deployed by leading body-in-white designers globally

The key is two specially developed EJOT components; a pin (CFP) for single sided fixing, and a component friction fastener (CFF) for double sided access.

From the first axial load application, the EJOT component reacts to high revolutions by penetrating through the top material layer, then under-filling the two materials as one. This four key-stage process is completed in typically less than two seconds - creating an incredibly strong joint.

### **EJOWELD**<sup>®</sup> **Product Animation**



EJOT's product animations demonstrate the principle behind specific fastening technologies and some of the design benefits to be gained.









### **Key Characteristics:**

- No pilot hole
- No pre or post treatment of joint components
- No brittle intermetallic phases – no thermal adhesive bond between aluminium and steel required
- Control of linear expansion differences induced by temperature change
- · A range of material thickness combinations can be achieved without modification to machinery

# Ancillary products

# Products and services allied to metal joining technologies.

### EJOT microscrews

EJOT microscrew variants offer all the performance advantages of the standard larger dimension fasteners. They range from manual assembly to automated serial assembly and are used in countless miniaturised applications.



### EJOT EJOFORM®

EJOFORM<sup>®</sup> products utilise multi-stage process technology where metal is cold formed into a complex fastening element. Each product is a unique solution meeting a variety of requirements in one bespoke design.

### EJOMAT<sup>®</sup> zero defect process

The EJOMAT<sup>®</sup> quality process brings high quality fastening and automation expertise together. It means EJOT can ensure high grade purity, trouble-free assembly processes and optimised economic efficiency.



### **EJOCLEAN®**

Where applications demand absolute cleanliness and particle purity, EJOT's EJOCLEAN<sup>®</sup> programme combines state-of-the-art equipment and analysis technology to achieve the best possible cleanliness on component surfaces.



### Design and calculation tools



EJOT's unique online tools help design engineers speed up R&D schedules and can reduce the need for testing - delivering cost-saving potential. Pre-calculation of screw joints early can prevent over-dimensioning of the screw joint and ensures intensive testing is reduced to a minimum.

- ALtra CALC® prognosis program for ALtracs® Plus
- CAE Services
- Standard calculation tools FDS® and SHEETtracs®
- EJOWELD<sup>®</sup> Application Checker

Scan the QR code left to find out more or visit www.ejot.co.uk/Prognosis\_Software

# Talk to our engineers

If you're involved with higher volume design engineering and would like a solutions-based conversation with one

solutions-based control of our application engineers. just call or email our team.

### CONTACT

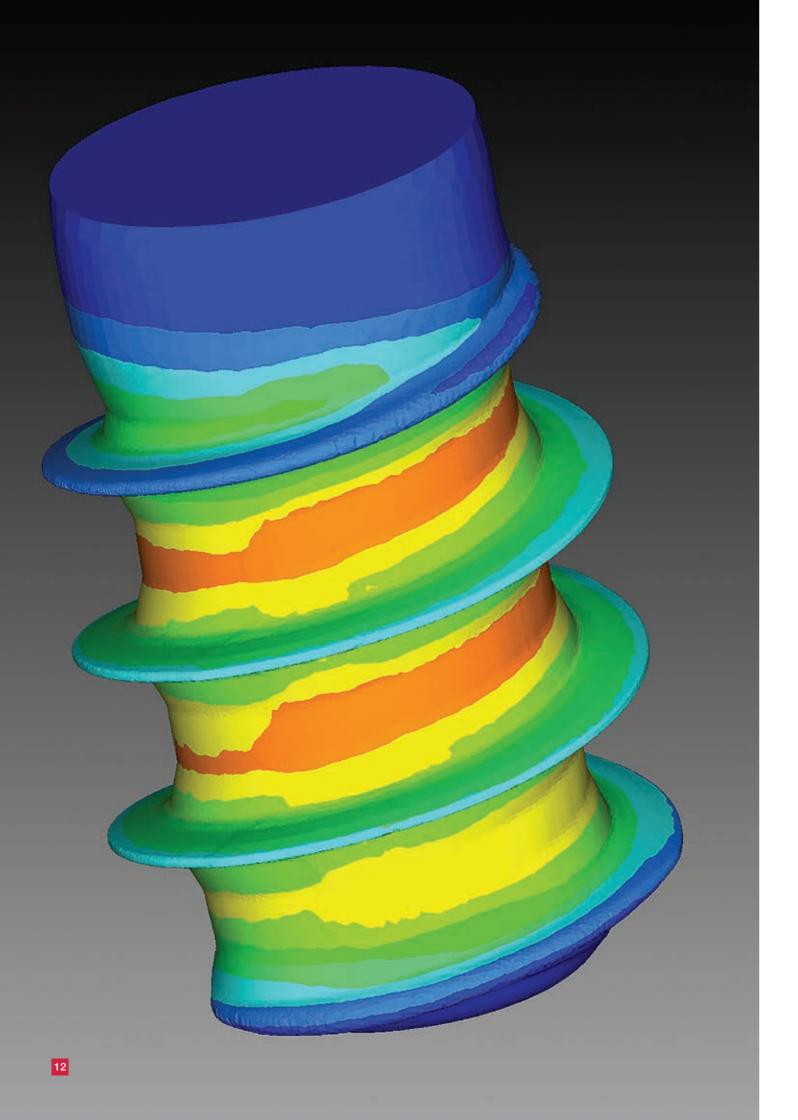
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# Case study:

A decade apart, two lawnmower assembly designs demonstrate the evolution of EJOT fastening systems







# **2.** Joining technologies: THERMOPLASTICS

EJOT EVO PT® is the latest generation thermoplastics screw from the originator of the PT line of screws for thermoplastics. This exciting new addition offers performance benefits where an installation torque that remains virtually constant regardless of installation depths, is a distinct design advantage.

### Latest generation PT screw EVO PT® Page 14 and 15

The design advantage in key applications. Performance benefits can impact logistics inventory, simplify installation and deliver real-time savings.

Joining thermoplastics and thermoset plastics

### **DELTA PT®** Page 16 and 17

The original thread geometry of DELTA PT® creates low surface pressure and provides a high clamp load. Variants include fasteners designed for thermoset materials, and fasteners also manufactured from thermoplastic material.

Ancillary products and services thermoplastics fastening Page 18

# EVO PT®

### Creating a constant installation torque at variable installation depths.

An evolutionary development in direct fastening, EVO PT<sup>®</sup> integrates real time manufacturing and application knowledge within the development process. The result is a fastening solution that offers design engineers new possibilities.



### The potential to reduce fastener parts and significantly simplify the installation process.

EVO PT®'s unique performance is delivered through the screw's innovative lead thread / following thread-forming geometry.

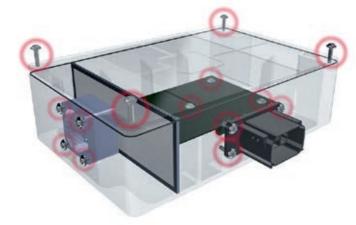
The combined result is an installation torque that is virtually constant regardless of installation depths!

These features alone deliver key advantages that range from the procurement inventory through to installation processes. Genuine cost considerations aligned to high performance fastening!



### **EVO PT® Product Animation**

EJOT's product animations demonstrate the principle behind specific fastening technologies and some of the design benefits to be gained.





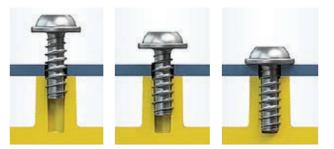
Automatic centring of the screw / smaller counterbore depth Automatic compensation for axial misalignment Reduced friction within the thread forming zone

### **Key Characteristics:**

- Evolutionary development in direct fastening into thermoplastics
- · Unique self-tapping thread design
- Optimised locating point
- Delivers depth independent installation torque
- · Excellent process reliability
- · Parts standardisation potential
- Potential cost saving benefits for inventory management and logistics



The unique lead-in thread of the EVO PT<sup>®</sup> allows for easy and straight positioning. Self-alignment means the screw centres automatically in the pilot hole during the installation, creating a uniform load on the thread flanks when completely fastened.



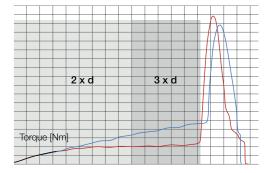
These unique characteristics mean that during the threadforming process, the torque curve created is virtually independent of the screw-in depth. As a result, a uniform tightening torque can be used at different screw lengths, creating the potential for smaller installation spaces, or the standardisation of fastener lengths and tightening torques.

### Application example: EV Battery Cell

This example demonstrates the use of EJOT DELTA PT® and EVO PT® in one single application. Marked in red, DELTA PT® is deployed to fasten the cell holders within the battery system. EVO PT®, incorporating EJOT SpringHead® is fastening the battery box cover to the frame.

### Bringing design engineering and intelligent fastening together





In the graph above, the red line represents EVO PT while the blue is a conventional thread-forming fastener and illustrates the virtually constant torque over the installation depth

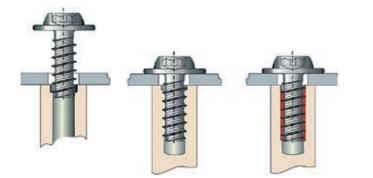
This friction between thread formed and the physical thread that follows is considerably reduced, flattening the installation torque. The elastic recovery of the plastic substrate means it will perfectly re-attach to the thread flanks when insertion is complete



# DELTA PT®

### Unrivalled joint performance and design versatility for thermoplastics.

Designed for direct thread-forming assembly into thermoplastic materials, EJOT DELTA PT® fasteners utilise an optimised thread geometry to deliver a resilient yet thoroughly versatile and reliable solution even in extreme applications.



Balanced ratio of clamp load to surface pressure. High clamp loads and tightening torques. High self-locking due to plastic-compatible thread pitch. High flank coverage, low surface pressure.

### Direct assembly reduces processes, saves time and unnecessary work.

### For designers, that means significant time and cost savings can be gained whilst achieving high performance for standardised parts.

The thread geometry of DELTA PT® creates low surface pressure and provides a high clamp load for the joint. Excellent long-term performance is obtained under thermal and dynamic loads.

### **DELTA PT®** Product Animation

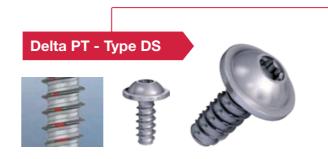
EJOT's product animations demonstrate the principle behind specific fastening technologies and some of the design benefits to be gained.

### Key Characteristics:

- Direct thread-forming into thermoplastic material
- · Minimised radial stress allows thin-walled designs
- High load capacity
- High fatigue strength
- High tensile / torsion strength
- Vibration resistance
- Wide range of possible tightening torques
- Lightweight design: use of shorter fasteners and / or smaller diameters possible under certain conditions



EJOT's DELTA PT® product family has evolved to match the versatility that thermoplastic materials now present to design engineers creating high strength, lighter weight assemblies.



Designed with special grooves in the thread geometry, and used where thermoset plastics impose extra demands due to hardness and brittleness.

- > Smaller chip space for shorter hole depth
- > Easier assembly processes
- > Larger flank coverage at the same insertion depth
- > Extended production range for diameter and length
- > Cost-saving through parts standardisation
- > Cost-saving through omission of threaded inserts



### Bringing design engineering and intelligent fastening together



Manufactured from thermoplastic with 50% fibreglass, the Delta PT P<sup>®</sup> variant is used where the material being thread-formed is unreinforced softer plastic.

- > Maintains clamp load under thermal influence
- > Weight reduction up to 85% less than a metal screw
- > Recyclable, no corrosion
- > Variable in length
- > High insulation resistance
- > Coefficient of expansion similar to plastic

# Ancillary products

Products and services allied to thermoplastics fastening.

### EJOT microscrews

EJOT microscrew variants offer all the performance advantages of the standard larger dimension fasteners. They range from manual assembly to automated serial assembly and are used in countless miniaturised applications.



### EASYboss®

Safe direct assembly of thin-walled components where they do not allow for direct assembly due to minimal thread engagement. Ideal for captive mounting and locking, the range provides adjustable wall thickness and various special or standardised solutions.



### Insert moulding

High precision metal-plastic hybrid component parts meeting the most stringent requirements of accuracy and size, dimensional stability, load bearing capacity, tightness, and appearance.



### Design and calculation tools



EJOT's unique online tools help design engineers speed up R&D schedules and can reduce the need for testing - delivering cost-saving potential. Pre-calculation of screw joints early can prevent over-dimensioning of the screw joint and ensures intensive testing is reduced to a minimum.

- EVO CALC<sup>®</sup> prognosis program for EVO PT<sup>®</sup>
- DELTA CALC<sup>®</sup> prognosis program for DELTA PT<sup>®</sup>
- CAE Services

Scan the QR code left to find out more or visit www.ejot.co.uk/Prognosis\_Software

# Talk to our engineers

If you're involved with higher volume design engineering and would like a solutions-based conversation with one polication engineers,

of our application one

## 

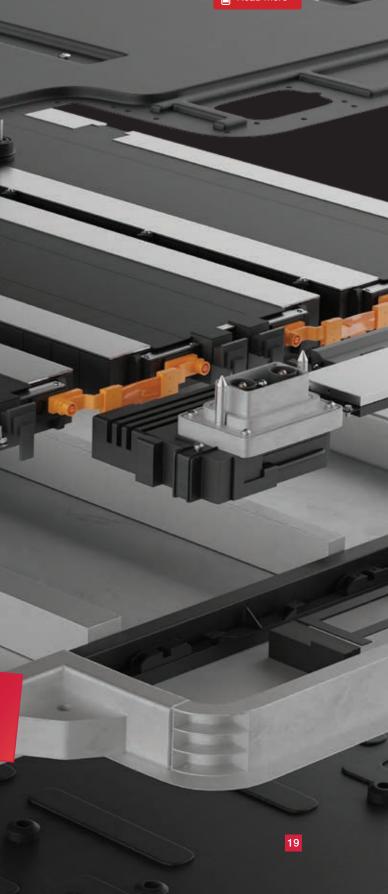
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# Case study:

# How new thread innovation is bringing electric vehicle battery box assemblies together



Read more



# High strength fastening for lightweight materials

With weight reduction a universal design imperative, the EJOT portfolio offers designers multiple solutions, proven to deliver intelligent fastening, high strength, and multiple procurement advantages that include manual through to fully automated assembly.

### EJOT TSSD®

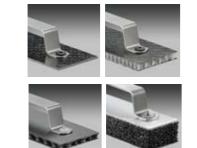
## Fast, low-cost assembly of honeycomb materials – no pre-hole required.

Developed by EJOT specifically for lightweight GFRP and CFRP materials, EJOT's unique TSSD system utilises frictional heat, precisely calculated to create a partial fusion of the joining parts. The result is an incredibly strong joint that in most cases, eliminates the need for any pre-hole, creating a much faster assembly process.



### TSSD<sup>®</sup> Product Animation

EJOT's product animations demonstrate the principle behind specific fastening technologies and some of the design benefits to be gained.



### EJOT TSSD<sup>®</sup> Key Characteristics:

- Simple and reliable fastening for lightweight materials
- Monitored setting process
- High strength of joint
- Joining into thermoplastic and thermoset materials
- Generally, a pre-hole is only needed for the clamping part
- Reduces corrosion issues
- Wide range of product variants available
- Bespoke modifications
  possible

TSSD® enables the highly efficient fixing of a vast range of honeycomb materials and panel thicknesses. Typical applications include cockpits, consoles, instrument panels entertainment systems and auto-HVAC. Especially valuable in EV applications, potential extends to insulated vehicles, emergency vehicles, caravans, and mobile homes.

### EPPsys RSSD<sup>®</sup> Key Characteristics:

- Innovative fastening system for EPP foams
- Ideally suited for tolerance independent assembly - no pilot hole is necessary
- High process reliability due to large margin between installation and stripping torque
- Weight savings due to used
  plastic material
- Manual, semi-automatic and fully automatic assembly possible
- High axial load capacity
- Recyclable



### EJOT EPPsys RSD®

# Direct fastening, strength and system reliability for lightweight foam assembly.

EJOT<sup>®</sup> EPP System provides designers with multiple solutions to fasten assembly, typically to expanded polypropylene. Other non-metal modern materials can also be fastened to achieve high strength solutions for lightweight assemblies, quickly and reliably.



The EJOT<sup>®</sup> RSD is a friction welding boss that provides highly effective fastening for EPP foams and honeycomb elements. The installation process securely connects to the molten material leaving the RSD component embedded in the foam, enabling direct assembly with the EJOT screw.



### EPPsys RSD<sup>®</sup> Product Animation

EJOT's product animations demonstrate the principle behind specific fastening technologies and some of the design benefits to be gained.

# Ancillary products

Products and services allied to lightweight materials fastening.



### EPPsys D<sup>®</sup>

These variants allow for multiple locking and loosening of the joint. The element is screwed into the components being joined using a special drive, then snap-fitted using axial loading.





### EPPsys DR<sup>®</sup>

Combines the performance advantages of EPPsys D with two additional engagement hooks for thin walled components.



### **TSSD** Variants

Since its inception in 2017, multiple variants of this unique bonding boss have been developed. TSSD is now being deployed by aerospace designers, even furniture companies are now using the fastening in wet-area products, as it moves from wooden furniture to ranges made from wood-effect honeycomb materials. More information is available from your EJOT application engineer.



### Design and calculation tools



EJOT's unique online tools help design engineers speed up R&D schedules and can reduce the need for testing - delivering cost-saving potential. Pre-calculation of screw joints early can prevent over-dimensioning of the screw joint and ensures intensive testing is reduced to a minimum.

- CAE Services
- TSSD Application checks On specification of variables such as material thickness and structure, recommendations are provided that relate to installation parameters and test-based connection strengths.

Scan the QR code left to find out more or visit www.ejot.co.uk/Prognosis\_Software



# Case study:

How TSSD is driving design solutions for super-lightweight materials



Read mor

CONTACT

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# Bringing NEW innovations...

The development of new engineering materials along with global goals for responsible, sustainable manufacturing mean that the evolution of fastening systems is an ongoing process for EJOT development teams around the world. Here are just a few examples of new products and systems that have emerged or are poised to be introduced.

# **SpringHead**<sup>®</sup>

### Spring-dynamic head design for significantly increased clamp retention.

Every screw connection has a reduced clamp load after assembly due to natural rules of physics. In certain applications such as electrical contacting, it's vital to maintain critical clamp load levels to maintain contact. EJOT SpringHead<sup>®</sup> is reliably achieves this, potentially eliminating the need for spring elements such as conical spring washers.



### **SpringHead**<sup>®</sup> **Product Animation**

Scan the QR code to watch our SpringHead® product animation and see the application benefits explained. You'll find more animations at www.ejot.co.uk/industrial-quicklinks

# **MAXXtip**<sup>®</sup>

### **Direct thread-forming solution for** ultra-high strength metals.

EJOT MAXXtip® combines a carbo-austempered shank with an ultra-hard screw tip. This unique combination allows completely new options for direct fastening into high strength materials. This microstructure in the load bearing area of the screw delivers strength values comparable to 10.9 and is not impacted by hydrogen embrittlement.



### **MAXXtip® Product Animation**

Scan me



Scan the QR code to watch our MAXXtip® product animation and see the application benefits explained. You'll find more animations at www.ejot.co.uk/industrial-quicklinks





# TOBI<sup>®</sup> Drive-System

### Offering a more stable drive connection with improved tooling performance.

The TOBI® Drive-System is a brand-new innovation designed with optimised axial alignment between the bit and screw head - simplifying handling even in areas that are difficult to access. This enables safe working in all positions, such as overhead assembly or when fastening components are in hard-to-reach areas - even in automated processes.



### **TOBI® Drive-System** Webpage and blog

Scan the QR code to learn



more about the new TOBI® Drive-System from EJOT. You'll find more animations at www.ejot.co.uk/industrial-quicklinks

# ...and design engineering TOGETHER



# ALtracs<sup>®</sup> XT



### New generation variant, expanding product benefits in key applications.

Due for release soon, ALtracs® XT will bring a new dimension to application benefits in much the same way that our EVO PT® thermoplastics screw complements its parent Delta PT<sup>®</sup>. All EJOT product evolution works in this way, responding to our customers' potential requirements whilst futureproofing for the demands of modern manufacturing.



## EJOT

# EJOT APPLITEC<sup>®</sup> **Total Project Support**

### Bringing digital prognosis and manual testing together.

Working with engineering design teams to arrive at successful solutions is what we do. Our state-of-the-art APPLITEC® Centre is a hub for innovative thinking and a comprehensive test bed for products and assemblies in the conceptual phase of development.

### For design engineering professionals, that can mean multi-material installation testing - with the objective of providing comprehensive torque analysis data.

These physical processes are often supported by EJOT's prognosis calculation software. These unique programs support key products thread-forming directly into modern materials, often fast-tracking prototype designs and reducing development costs.

### APPLITEC<sup>®</sup> services at a glance:

- · Detailed joint analysis and performance data
- Testing from sample parts through to developed components
- · Torque and clamp load measurement
- · Long-term thermal stress, tensile and compression tests
- · Preparation and archiving of applicationspecific reports
- Onsite customer collaborative approach welcomed







### EJOWELD® demonstration and testing equipment

EJOWELD® friction weld component technology is now deployed for Body-In-White assembly by leading automotive manufacturers worldwide.

Initially developed to join light aluminium to high strength boron steel, the process has been expanded to offer new potentials including aluminium to aluminium, and carbon fibre materials to aluminium.

EJOWELD® rigs offer sophisticated test benefits where high-volume automated assembly is planned.

### Manual and semi-automated installation test rigs

Applications such as single sided assemblies benefit from absolute torque data based on specific materials, using known torque settings from 1Nm to 12Nm.

This can include standard fasteners through to the microscrew variants used in multimaterial joining.

Typical assembly applications can be as diverse as automotive components through to intricate pharmaceutical instruments

### Joining super-lightweight materials

EJOT's EPPsys® and TSSD® components work on the principle of a specific axial loading / revolution ratio, resulting in a fast friction based joint.

Our test rigs make it possible to achieve and record correct setting parameters. Pull-out loads for TSSD into the broad standard honevcomb material are typically around 800Nm, with loads of up to 1000Nm achievable. This can rise to as much as 1800Nm in special materials.





# Talk to our engineers

If you're involved with higher volume design engineering and would like a solutions-based conversation with one of our application engineers,

just call or email our team.

### CONTACT

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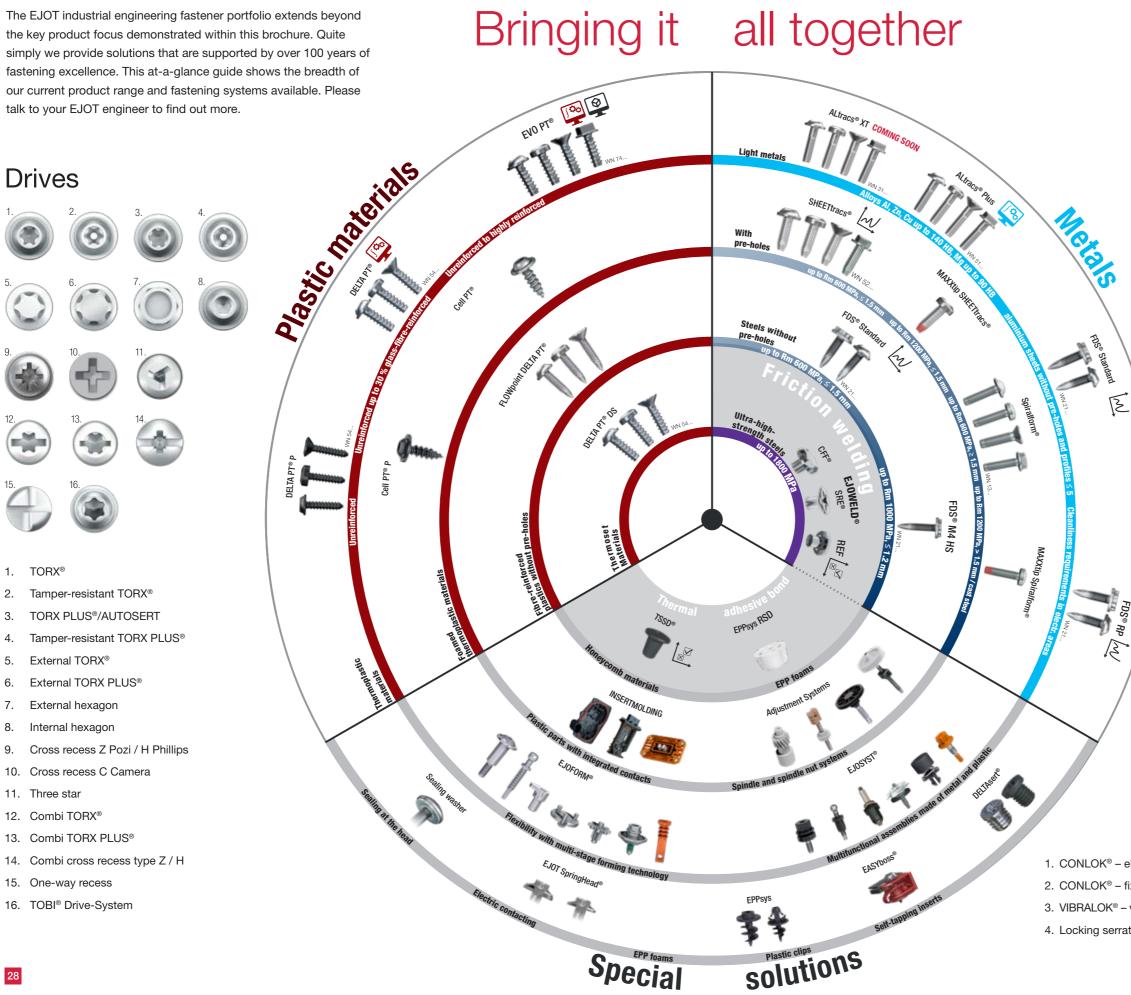








## **EJOT**



### Bringing design engineering and intelligent fastening together



Prognosis programs



**Basic Calculators** 



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SHEETtracs®

**Application Checks EJOWELD®** 

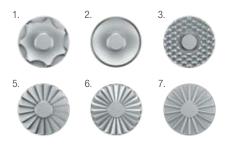
TSSD<sup>®</sup>

### Head styles



- 1. Pan head
- 2. Pan flange head
- 3. Countersunk head
- 4. Raised countersunk head
- 5. External TORX PLUS<sup>®</sup> Low Profile
- 6. External TORX® with flange
- 7. Hexagon with flange
- 8. Hexagon with headed washer
- 9. EJOT SpringHead<sup>®</sup>

### Under-head geometries



- 1. CONLOK® electr. contacting 2. CONLOK® - fixing, contacting 3. VIBRALOK® - vibration protection 4. Locking serration - thread lock
- 5. Friction locking increase of head friction
- 6. Rib serration thread lock
- 7. Ripplock serration thread lock

## EJOT

# Bringing design, innovation and fastening solutions together



EJOT's industrial engineering fastening capability is naturally aligned with automotive manufacturing worldwide. That's because vehicle assembly utilises all modern engineering materials in the most demanding applications.

But did you know that our fasteners can be found in multiple manufacturing sectors as diverse and as far apart as precision pharmaceutical instruments through to domestic garden maintenance products?

The design brief to produce a fastening solution for a domestic central heating boiler is much the same as for a high-performance car; vibration resistance, high clamp load, absolute assembly reliability – and the possibility to reduce parts and simplify logistics.



Could your design application be our next fastening solution? If you would like a solutions-

If you would like a solution based conversation with one of our application engineers, just call or email our team.

> CONTACT Call (+44) 1977 687 040















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www.ejot.co.uk

Bringing it together.