



PRECOTE®



微胶囊封装螺纹防松与密封剂

非反应型

非反应型有用于密封目的·防松螺丝目的·润滑目的等各个种类, 不需要固化时间, 可在紧固螺丝的同时发挥出<密封·防松·润滑>的效果。

非反应型			
Precote	密封能力bar	适用温度范围	主要用途
4	15~50	-50~180°C	密封
5	15~50	-50~180°C	密封
6	15~50	-50~110°C	防松+密封
9	15~50	-50~180°C	密封
10	15~50	-50~150°C	防松+密封
10-1	锥形螺纹	-50~150°C	防松
19-2	无	-50~90°C	防松
19-7	15~50	-50~150°C	防松
709	喷水密封	-50~700°C	装配/卸载

Precote产品符合
ISO 9001 : 2000
证书登录编号 12 100 11691 TMS

Precote独特的双成分胶囊工艺

Precote是(德国) OMNITECHNIK公司开发的用于螺丝上的防松·密封·润滑涂层剂, 分为化学反应(Reaction)型和非反应(Non- Reaction)型两个种类。

化学反应型

反应型Precote (30/80/85系列) 也被称为固化型, 是通过化学反应将雌雄螺纹的嵌合处固化, 起到防松(Locking)或密封(Sealing)的作用, 是采用作为Precote开发商(德国) OMNITECHNIK公司独自专利技术的双成分胶囊工艺防松系统, 可发挥出其他公司产品所无法具备的①~③项优越性。

- ① 固化所需的硬化时间短(1个小时便可应用)
- ② 保管期(货架寿命)长(4年<4 Years R/T 27/65DIN 50014>)
- ③ 能够适应其他公司同产品在海上运输过程中易发问题的严酷保管条件。

化学反应型				
Precote	强度	硬化速度	适用温度范围	主要用途
30	低	快	-50~150°C	密封、防松
80	很高	快(3h)	-50~170°C	高温下密封、防松
85	高	快	-50~170°C	高预加负荷下密封、防松

Precote 反应型的固化原理

它是在<粘合剂>的基础上将分别内置于2种胶囊中的<丙烯酸酯树脂>和<固化剂>均匀混合成涂层材料, 然后将该材料涂在螺纹部。当拧紧螺丝时, 通过与相对螺纹的摩擦力作用破坏胶囊, <树脂><固化剂><粘合剂>混合, 开始发生固化化学反应, 固化完成时, 防松螺丝便被锁紧。



PRECOTE®



Locking and Sealing Agent of
Microcapsule Encapsulation Threads

Non-Reaction Type

The Non-Reaction Type products can be used for sealing, locking and lubricating. No curing time is required. They can exert sealing, locking and lubricating effects when tightening a screw.

Non-Reaction Type			
Precote	Sealing Capacity bar	Temperature Range	Main Purpose
4	15~50	-50~180°C	Sealing
5	15~50	-50~180°C	Sealing
6	15~50	-50~110°C	Locking + sealing
9	15~50	-50~180°C	Sealing
10	15~50	-50~150°C	Locking + sealing
10-1	Tapered thread	-50~150°C	Locking
19-2	None	-50~90°C	Locking
19-7	15~50	-50~150°C	Locking
709	Water jet seal	-50~700°C	Mounting/removal

Precote products are ISO 9001 : 2000 certified.
Certificate No.12 100 11691 TMS

Precote Unique Double-Component Capsule Process

Precote is a coating agent developed by (Germany) OMNITECHNIK and used for fastening, sealing and lubricating of screws. It includes Reaction type and Non-Reaction type.

Reaction Type

Reaction type Precote (30/80/85 series) is also known as curing type. After chemical reaction, the engagement points of male and female threads are cured and thus it plays the locking or sealing role. It adopts patented double-component capsule process locking system of Precote's developer OMNITECHNIK and can exert benefits ①~③ which other manufacturers' products do not have.

- ① Short hardening time required for curing (can be applied in 1 hour);
- ② Long warranty (shelf life) (4Years <4Years R/T 27/65DIN 50014>);
- ③ Compatible with demanding storage conditions during marine transport of other manufacturers' products.

Reaction Type				
Precote	Strength	Curing Speed	Temperature Range	Main Purpose
30	Low	High	-50~150°C	Sealing, locking
80	Very high	High (3h)	-50~170°C	Sealing, locking under high temperature
85	High	High	-50~170°C	Sealing, locking under high pre-applied load

■ Curing principle of Precote Reaction Type

It evenly blends acrylate resin and curing agent which are in 2 capsules into coating material on the basis of adhesive and then spreads the material onto the thread part. When tightening a screw, the friction force against the corresponding thread damages the capsules. Acrylate resin, curing agent and adhesive mix and then curing chemical reaction occurs. After the curing, the self-locking screw will be locked.



PRECOTE 709®



耐高温 (~700°C) 防止冷焊・卡死的润滑剂

除冷焊防止剂以外，还具有以下功能。

摩擦系数稳定

密封功能

摩擦面的防锈・防电蚀

■ 世界上首次开发出的高温 (~700°C) 耐热防冷焊润滑剂

可防止高温下进行不锈钢螺丝紧固作业时发生的卡死 (Galling) · 冷焊(Seize)现象，即便紧固后的部件使用环境达到700°C高温，也可以防止随时间经过导致的热熔现象，不会发生维护作业时螺丝拆卸上的问题。

■ 以不锈钢螺丝为主的卡死 (Galling) · 冷焊 (Seize) 现象发生原理存在以下 (A) (B) 两方面的原因，需要采取适当对策。

(A) 一般性卡死 · 冷焊现象发生(常温使用)时的原理

不锈钢螺丝材质摩擦系数是一般钢材的2倍，紧固螺丝时摩擦部会发生高温，但因其热传导率较小（是钢材的1/3），进而造成摩擦热积聚，达到热膨胀率（约是钢材的2倍），因螺纹部间隙减少，摩擦面局部烧熔后固化，即所谓的“摩擦 (Tribology) 导致的冷焊 · 卡死现象的发生”。

(B) 高温 · 长期使用时发生卡死 · 冷焊现象的原理

<对于此种类型的现象，Precote 709®功能特性特别有效>

因不锈钢螺丝材质中含有辅助螺丝制造上所需延展性的添加金属，在长期紧固过程中，有时会发生因摩擦面之间的蠕变现象 (Creep-Phonomerla) 而导致的经时热熔现象，从而经常会发生更换部件(维护)时螺栓拆卸不下，不得不追加成本的重大问题，这便是所谓的“经时热熔(蠕变)导致的冷焊 · 卡死现象的发生”。

现已证明，蠕变现象是因长期外力作用导致金属结晶体结构的经时性变形而发生的，发生频度会因外力的增加和温度的上升而增加，所以一旦现象发生后便会导致重大问题，需要采取艰难的对策。

■ 对除不锈钢材质以外的容易发生卡死 (Galling) · 冷焊 (Seize) 现象的以下示例，Precote 709® 仍然有效。

- 将摩擦系数较大的含表面处理剂(二氧化硅)成分较多的、久美特处理螺栓向热传导率较小的铸铁雌螺纹紧固时的部位(在螺栓紧固作业中发生)。
- 在摩擦系数较大的表面，向软轻金属材质的雌螺纹部位紧固的部件在高温下长期使用时，一般软质材质会容易发生蠕变现象，加之高温长期使用，便会发生《经时热熔现象》，导致部件更换(维护)时螺丝无法拆卸的问题。
《以部件轻量化为目的，变更雌螺纹材质设计，用于轻量 · 软质化部位》

Precote 709® 物理数据	
<色调>	灰色
<保存寿命>	室内保管 4年 27/65DIN50014
<螺纹部摩擦系数>	(μs) 0.09~0.12
<性状>	干燥薄膜状，不粘连。 (Precote 709® 不会象2硫化钼(MoS2)涂料那样，弄脏作业人员的手及周边部件。)
<安全性>	不含对人体有害物质 适合RoHS/Reach规制

扭矩数据 <Precote 709®>		
紧固扭矩	40Nm后 (首次)	24小时(室温)放置 (第5次)
拆卸扭矩 (破坏扭矩测量值)	31Nm	30Nm
紧固扭矩	40Nm后 (首次)	24小时 (400°C) 放置
拆卸扭矩 (破坏扭矩测量值)	35Nm	
<M10 螺栓 拧紧扭矩 1~2Nm>		



PRECOTE 709®



Resistance to High Temperature (~700°C) Lubricant to Prevent Galling and Seize

Including the following features in addition to Seize inhibition:

Stable friction co-efficiency;

Sealing function;

Rust/galvanic corrosion inhibition on the friction surface

■ Globally first seize inhibitive lubricant which have the feature of resistance to high temperature (~700°C)

Prevent galling and seize during tightening stainless steel screws under high temperature. Even if the tighten part is subject to 700°C, hot melting with the time can also be prevented. No issues related to screw removal during maintenance will occur.

■ For the reason of Galling and Seize related to stainless steel screws, refer to (A) and (B) below. Take suitable measures.

(A) Principle for common galling and seize (used under normal temperature)

The friction co-efficiency of stainless steel screw material is 2 times of common steel products. The friction part will have high temperature during tightening. However, its thermal conductivity is low (1/3 of that of steel products), the friction heat is prone to accumulation. Because the clearance in the thread part decreases, melting occurs in some part on the friction surface and subsequently curing occurs. "Friction (Tribology) causes galling and seize."

(B) Principle for galling and seize in long time of use under high temperature

<Precote 709® functions very well especially for this kind of phenomenon>

For the added metal which has required ductility for auxiliary screw manufacture in the stainless steel screw material, age hot melting may occur due to creeping phenomenon between friction surfaces. In this case, it may be hard for removal during replacement or maintenance and thus the cost increases. This is "age hot melting (creeping) causes galling and seize". It has been proven that the creeping is due to deformation of crystal structure of metal under long term of external force. The frequency will increase with the increase of such force and temperature. Therefore, it can cause major issues and rough countermeasures are required.

■ For the following examples of galling and seize on materials other than stainless steel, Precote 709® still functions well.

- Move the Geomet bolts with larger friction co-efficiency, higher content of surface treating agent (SiO₂) to the location with smaller thermal conductivity when tightening cast iron female threads (occurring when tightening bolts).
- If the part tightened toward the female screw part of soft, light metal material is subject to long term of use under high temperature, creeping may occur to the soft material. Moreover, long term of use under high temperature may cause age hot melting. Sometimes, it may be hard for removal during replacement (maintenance).

Make the parts light-weighted and modify the female screw design and use them in light, soft locations.

Precote 709® Physical Data	
<Color>	Gray
<Storage life>	Indoor 4 years 27/65DIN50014
<Friction co-efficiency (μs) sin thread part>	0.09~0.12
<Characteristics>	Dry, film like, do not adhere to each other (Unlike MoS ₂ coating, Precote 709® will not dirty the operator's hands or surrounding parts.)
<Safety>	Do not include hazardous substances Compatible with RoHS/Reach

Torque Data <Precote 709®>		
Tightening torque	40Nm (for the 1 st time)	Place it for 24h (under room temperature) (at the 5 th time) (第5次)
Removal torque (measured breakaway torque)	31Nm	30Nm
Tightening torque	40Nm (for the 1 st time)	Place it for 24h (under 400°C)
Removal torque (measured breakaway torque)	35Nm	
<M10 Bolt Tightening Torque 1~2Nm>		



3M® SCOTCH-GRIP®

《3M-2353·3M-4844·3M2510·3M-2510N·3M-4291》

3M Scotch-Grip是由美国3M公司开发的、以螺丝防松·密封及润滑功能为目的的涂层材料，分为化学反应(Reaction)型和非反应(Nom-Reaction)型两种。

3M Scotch-Grip反应型的特色与种类

以内置于微胶囊中的环氧树脂系粘合剂为基础，由粘合剂+固化剂(胺)配合成涂层剂，然后将该涂层剂涂在螺纹部，通过螺丝嵌合·紧固时胶囊被破坏而开始发生化学反应，固化螺纹部，发挥防松功能。因微胶囊的胶囊径(20~70μ)较小，即便对于小尺寸(M1.0~M3)螺丝亦可以发挥出稳定的效果。另外，又因不使用丙烯酸，具有不腐蚀固化部的特色，以稳定的摩擦系数得到理想的紧固力。

3M-2353 (蓝色)	<一般使用>
3M-2353Y (黄色)	<一般使用>
3M-2510 (橙色)	<高温使用> ~149°C (连续使用) / ~204°C (瞬间最高温度)

<从小尺寸螺丝至大尺寸螺丝可以广泛对应·螺丝部不发生腐蚀·摩擦系数稳定>



3M-2353 (Blue 蓝色) 及3M-2510 (Orange 橙色) 是保证符合IFI-125 (Inch-Thread) IFI525 (Metric-Thread) <Lock Screws with Preapplied Chemical Coating> (美国螺丝工业规格) 性能的产品，适合以下汽车的制造规格。

3M-2353 (Blue蓝色)		3M-2510 (Orange橙色)	
GM	GM6175M	GM	GM6193M
Ford	ESA-M2G200-A ESS-M11P24-A2	Ford	ESA-M2G200-A ESS-M11P24-A1
Chrysler	PF-6616 MS-CC76	Chrysler	PF-6616 MS-CC76

3M Scotch-Grip非反应型的特色

非反应型作为水性基调、安全可信的密封涂层材料，可同时起到《密封·润滑》的作用，紧固后立刻就可发挥出效果。

3M-4291 (白色)	<一般使用>
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Scotch-Grip是以3M公司的粘合技术为基础，以安全·快速思想为理念研发出的产品。



3M® SCOTCH-GRIP®

《3M-2353 · 3M-4844 · 3M2510 · 3M-2510N · 3M-4291》

3M Scotch-Grip is a kind of coating material developed by 3M Corporation and used for locking, sealing and lubricating and includes Reaction type and Non-Reaction type.

Features and Categories of 3M Scotch-Grip Reaction Type

It is based on the epoxy resin series adhesive in a microcapsule. Integrate the adhesive and curing agent (amine) into coating agent and then apply the coating agent onto the thread part. After thread engagement, the capsule will be damaged during tightening and chemical reaction will occur. And then it can harden the thread part and exert the locking feature. Because the size of the microcapsule is small (20~70 μ), it can play stable effect even for small (M1.0~M3) screws. Additionally, it does not use any acrylic acid and corrode the curing location. Favorable can be expected by its stable friction co-efficiency.

3M-2353 (blue)		<General use>
3M-2353Y (yellow)		<General use>
3M-2510 (orange)		<Use under high temperature> ~149°C (continuous use) / ~204°C (instant max. temperature)

<The screws fro small size to large size can be widely corresponding · the thread part does not corrode · friction co-efficiency is stable>



3M-2353 (blue) and 3M-2510 (orange) are compatible with IFI-125 (Inch-Thread) IFI525 (Metric-Thread) <Lock Screws with Preapplied Chemical Coating> (American Screw Industry Specifications) and suitable for the following vehicle manufacture specifications.

3M-2353 (Blue)		3M-2510 (Orange)	
GM	GM6175M	GM	GM6193M
Ford	ESA-M2G200-A ESS-M11P24-A2	Ford	ESA-M2G200-A ESS-M11P24-A1
Chrysler	PF-6616 MS-CC76	Chrysler	PF-6616 MS-CC76

Features of 3M Scotch-Grip Non-Reaction Type

As waterborne, safe and reliable sealing coating material, Non-Reaction Type can play sealing and lubricating roles. It can function immediately after tightening.

3M-4291 (white)		<General use>
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Scotch-Grip is a product developed based on 3M's adhesion technology and the safe and quick concept.



U-COAT MASKING™ 优烤涂™

U-COAT MASKING 优烤涂防焊渣保护膜

U-COAT MASKING是指将PFA树脂涂在螺纹上，以防止焊渣飞溅、电泳涂料粘着的螺纹保护涂层。



U-COAT MASKING的特性

- 产品概要：PFA粉末涂层
- 产品色调：透明、染色品
- 熔化温度：300°C

■ 防止焊接飞溅的粘着

U-COAT MASKING因PFA树脂中含有90%以上的具有耐高温性的PFA树脂，所以焊渣飞溅很难粘着于涂层表面。另外，U-COAT MASKING的原料呈粉末状，因此适合在螺纹的牙顶、斜面、牙底等的涂覆。

■ 防止电泳涂料的粘着

U-COAT MASKING的PFA涂层因PFA树脂具有很强的防水性，所以电泳涂料和底漆等很难粘到涂层表面。特别是因为U-COAT MASKING材料成粉末状且颗粒小，所以能够防止电泳材料浸透到涂层的缝隙中，以达到防止电泳涂料的粘着。

■ 扭矩、轴向力的稳定效果

因为采用PFA树脂涂覆，所以摩擦系数稳定，减少了紧固扭矩、摩擦系数的分散，确保了稳定的扭矩和轴向力。

■ 导电性的确保

虽然紧固前的U-COAT MASKING具有绝缘效果，但是紧固后涂层会剥落所以能够确保必要的导电性。

■ 环保型产品

使用了环保型PFA氟树脂，因此是完全符合欧美环境标准的涂层。

■ 可实现最高的质量管理

原有的RE-TAP、螺帽、仿真螺栓等工艺可能会由于操作人员的失误而发生重大的质量问题。因为RE-TAP是攻牙时对螺纹造成损害的可能性极高的方法，螺帽、仿真螺栓的使用增加了作业后的除去工序，所以增加了质量管理的不确定性，采用优烤涂产品可提高质量管理和综合工作效率。

■ 成本的降低效果

能够降低现有的质量管理成本及操作人员的人工费、螺帽、仿真螺栓的成本。



U-COAT MASKING™

U-COAT MASKING

U-COAT MASKING is a protective coating formed by paint a special fluororesin on screw threads, it can prevent the screw threads from being adhered by welding sputter and electrodeposit paint.



U-COAT MASKING Properties

- Product profile : PFA powder coating
- Product hue : Clear, coloring product
- Melting temperature : 300°C

■ Prevention of welding sputter adherence

U-COAT MASKING contains 90% PFA resin whose heat resistance is excellent among fluororesins, so the welding sputter cannot adhere to the coating surface. Moreover, the raw material of U-COAT MASKING is powdery, so the screw threads, flanks, roots can be coated.

■ Prevention of electrodeposit paint adherence

Due to the excellent water repellence property of fluororesin in PFA coatings of U-COAT MASKING, all electrodeposit paint and primers cannot adhere to its surface. Especially, the raw material of U-COAT MASKING is fine powder, which can prevent the coating's skimmer from being permeated by electrodeposit paint.

■ Torque, fastening power stabilizing effect

By virtue of fluororesin coating, the friction coefficient stabilizes, distribution of fastening torque and friction coefficient is lessened, which can ensure a stable fastening power.

■ Assurance of conductivity

U-COAT MASKING has insulation effect before fastening, however, the coating peels off after fastening, which ensures necessary conductivity.

■ Friendly to environment

The environment-friendly fluororesin is used. Furthermore, the coating conforms to environment standards of Europe and America.

■ Top quality management is possible

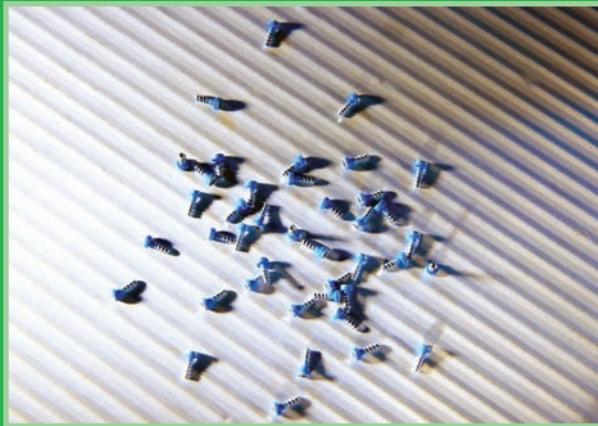
In the usage of current masking method RE-TAP, that is, CAP, Dummy Bolt, it is still possible that big quality problems can be caused by the performers' mistakes. Moreover, in RE-TAP, damage is quite likely to occur against screw threads, in using CAP and Dummy Bolt, the removal procedure after performance increases, which increases the uncertainties for quality control.

■ Cost down effect

The current quality control costs, the labor costs for current masking performers, cap and dummy bolt costs as well as recycling costs can be cut down.



INS SEAL® 耐绝缘®



永久性绝缘和密封产品

INS SEAL是在精密小螺丝及精密自攻小螺丝的密封功能上灵活运用了超精密涂层技术加工，是应广大顾客的需求研发的优涂扣(上海)有限公司的独家专利产品，是大幅降低了密封功能和螺丝紧固作业成本的新开发商品。

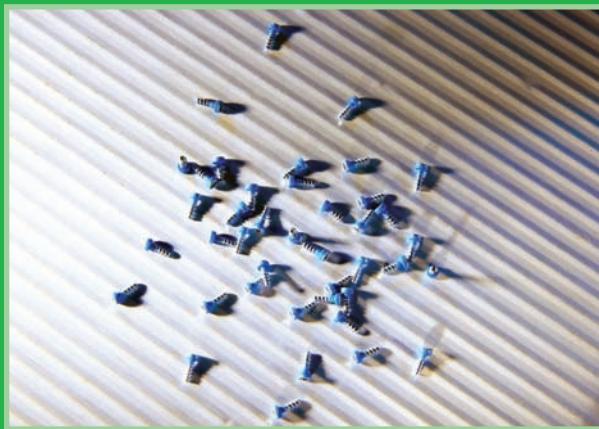
涂层材料具有优越的耐药品性、耐气候性，对酒精、汽油、及其他有机溶剂都具有良好的抗腐蚀能力，并且具有优越的电流绝缘性，可防止因异种金属接触部的电位差而发生的电解腐蚀(电蚀)。在使用温度范围-50°C 到 + 150°C 内，还具有良好的蠕变特性，随时间的推移变化极少，不会随时间的推移而发生收缩·钝化·干裂的现象。

Ins seal® 处理的优点：

- INS SEAL是永久性熔敷在螺丝头部座面上，可以反复使用。消除了从前使用密封产品(如：隔片、O形环、塑料垫片)在紧固作业及修理作业时的丢失顾虑。
- 涂层材料柔软地紧贴在相对表面上，发挥优越的密封效果，不会给相对表面带来任何破坏(不会剥落油漆涂装)。
- 最适合密封功能比较困难的座面面积较小而又必需进行密封的螺丝。



INS SEAL®



Permanent Insulation and Sealing Product

INS SEAL flexibly utilizes ultra-precision coating technology based on small precision screws and small precision tapping screws. It is a patented product of U-COAT (Shanghai) Corporation on customers' request and a new product substantially reducing the cost for sealing and screw tightening.

The coating material features superb chemical resistance and weather fastness. It is highly resistant to corrosion of alcohol, gasoline and other organic solvents and has outstanding current insulation. It can prevent electrolytic corrosion due to the potential difference in the contact locations between different metals. Its creeping performance is good from -50°C ~ +150°C and has little change over the time. Contraction, passivation or cracking may not occur over the time.

Benefits of Ins seal®

- INS SEAL is permanently deposited onto the screw head and reusable. It eliminates the former worry that the sealing products (spacers, O-rings, plastic gaskets) in use get lost during tightening or repairing.
- The coating material softly attaches to the corresponding surface and plays superb sealing effect. It will not do any harm to the corresponding surface (will not peel off the paint coating).
- Ideal for screws which is hard to seal, whose seat area is small and for which sealing is required.



U-TORQ™



U-TORQ™ 螺纹预涂润滑剂

U-TORQ™ 产品描述

U-torq是一种用于涂覆螺纹的人工合成接触干燥膜状蜡润滑剂。它是生理上无毒的预涂胶，能减少摩擦与防止冷焊，可以使用在广泛的工业及制造用途上。U-torq也是针对自攻螺丝的专门设计。干燥后可以触摸。

U-TORQ™ 的应用

用于螺纹零件上，特别是自攻螺钉。它减少螺纹成型动作时的安装扭力，以及装配操作时的安装扭力，以及装配操作时的驱动扭力，U-torq防止扭力振荡与咬痕，以微小的偏差产生高夹紧力，局部或者全螺纹涂覆均可。它也是一种可以避免涂胶和干燥过程中铜装置腐蚀的抑制剂。

U-TORQ™ 的性能

- 形成干燥、不粘连的薄膜
- 局部或全螺纹涂覆均可
- 在液态和已涂敷条件下，对人体无害
- 可以在使用前很长时间预涂
- 具有较低稳定的最佳摩擦值
- 克服磨损、扭力振荡及冷焊
- 可以被应用到所有的有螺纹材料-包括塑料
- 螺纹成型扭力显著降低
- 达到并超过重要的工业规范 (DIN ISO 7085)
- 得到戴姆勒-克莱斯勒MS 9775;GM 9986167;福特WSS-M21P27 A4许可证书

U-TORQ™ 物理数据

颜色	透明 (可以根据要求涂色)
密度	1.0
适用温度	70°C
螺纹摩擦系数 μ_{thread}	0.06-0.15 (决定于稀释与表面物质情况)
初始安装扭力 (M10 *1.5)	<20Nm
胶囊封装后保存期	室温下 4年 27/65 DIN 50014

■ 室内灯光下



■ 紫外线光下





U-TORQ™



U-TORQ™ Screws Precoated with Lubricant

U-TORQ™ Product Overview

U-torq is a kind of artificially synthesized contact type dry wax lubricant which is film like. It is a physiologically non-toxic pre-applied adhesive. It can reduce friction, prevent seize and can also widely used for industrial and manufacture purposes. U-torq is also specially designed for tapping screws and can be touched after dried.

U-TORQ™ Application

Used in screw parts, especially tapping screws. It reduces the mounting torsion in the thread forming, the mounting torsion in assembling and the drive torsion in assembling. U-TORQ prevents torsional vibration and indentation, and generates high clamping force with slight deviation. Both local and full thread coating methods are acceptable. It is also an inhibitor to prevent copper elements from corrosion during gluing and drying.

U-TORQ™ Performance

- Form dry films which do not adhere to each other;
- Local and full thread coating methods acceptable;
- Do no harm to human body under liquid or coated condition;
- Precoating a very long time in advance before use allowed;
- Stable and best friction value;
- Overcome wear, torsional vibration and seize;
- Can be applied onto all materials with threads, including plastics;
- Screw forming torsion substantially reduced;
- Meet or exceed major industry specifications (DIN ISO 7085);
- DaimlerChrysler MS 9775; GM 9986167; Ford WSS-M21P27 A4 approved;

U-TORQ™ Physical Data

Color	Transparent (coating on request)
Density	1.0
Applicable temperature	70°C
Thread friction co-efficiency μ_{thread}	0.06-0.15 (depending on dilution and surface substance)
Initial mounting torsion (M10 *1.5)	<20Nm
Storage period after the capsule is sealed	4 years under room temperature 27/65 DIN 50014

■ Under Room Light



■ Under UV





U-COAT®

优涂扣防松产品

U-COAT®世界公认最佳防松螺丝产品

优涂扣是本公司与集团公司依据汽车、航空、机械、电子等各行业领域所需，开发研制的具有世界代表性的防松紧固件产品，利用常年积累的实际成果与经验，不断进行全新改进，生产的多目的、多功能的优质防松紧固件产品。



优涂扣的特点

- 强力防松功能
- 摩擦系数、紧固力(轴力)稳定
- 止漏效果
- 对客户螺丝的保护
- 耐久性良好
- 符合国际环境标准
- 反复使用
- 不松懈的调整螺丝
- 超群的作业性
- 设计更改简单
- 防生锈防腐蚀

优涂扣螺丝的优点

- 可依客户需求设计防松扭力和加工位置
- 可取消点胶作业的使用，配合自动化作业，降低成本
- 符合各大行业标准(Din、GM、FORD、IFI等)
- 涂布范围宽(从90度到360度)
- 使用温度从-56°C 到170°C

■ 优涂扣所使用工程树脂材料的环境及药品适用性

种类	浓度 %	温度	
		20°C	60°C
石油	饱和	◎	◎
柴油		◎	◎
刹车油		◎	◎
燃料油		◎	◎
水		◎	◎
海水		◎	◎
变压器油		◎	◎

种类	浓度 %	温度	
		20°C	60°C
胺水	饱和	◎	◎
苯	100	◎	◎
苛性钠	100	◎	◎
硫酸	10	○	×
硫酸	50	×	×
合成洗洁精		◎	◎
三氯乙烯	100	△	×

种类	浓度 %	温度	
		20°C	60°C
甲苯	100	◎	○
硫磺	100	◎	◎
盐酸	10	△	×
尿素	饱和	○	○
硫化氢	低	○	○
甲醇	50	○	○
打字机油		○	○

◆符合表示 ◎不受腐蚀 ○不影响使用 △少许腐蚀 ×腐蚀



U-COAT®

U-COAT® SELF-LOCKING PRODUCTS

U-COAT® Internationally recognized best self-locking screw products

U-COAT is a kind of internationally representative self-locking fastener product developed by us and our group company based on the demand in automotive, aviation, machinery and electronics fields. We manufacture multi-purpose, multi-functional high-quality self-locking fastener products by virtue of years of accumulation of achievement and experience as well as continuous new improvement.



U-COAT's Characteristics

- Powerful self-locking
- Re-usability
- Stable Friction Co-efficiency and Clamp load (shaft force)
- Non-slack adjustment screw
- Sealing effect
- Prominent operational performance
- Protect customers' screws
- Simple to design and modify
- Highly durable
- Rust/corrosion inhibition
- Compatible with international environment standard

U-COAT SCREW FEATURES

- Customizable to design self-locking torque and machining location
- Eliminate spot gluing, and reduce cost when combined with automation
- Major industry standards compatible (DIN, GM, FORD, IFI, etc.)
- Wide coating range (90 degrees to 360 degrees)
- Service temperature range from -56°C to 170°C

■ Environmental and Chemical Applicability of Engineering Resin Used in U-COAT

Type	Concentration %	Temperature	
		20°C	60°C
Petroleum		◎	◎
Diesel oil		◎	◎
Brake oil		◎	◎
Fuel oil	Saturated	◎	◎
Water		◎	◎
Seawater		◎	◎
Transformer oil		◎	◎

Type	Concentration %	Temperature	
		20°C	60°C
Amine water	Saturated	◎	◎
Benzene	100	◎	◎
Caustic soda	100	◎	◎
Sulfuric acid	10	○	×
Sulfuric acid	50	×	×
Synthetic detergent		◎	◎
Trichloroethylene	100	△	×

Type	Concentration %	Temperature	
		20°C	60°C
Toluene	100	◎	○
Sulfur	100	◎	○
Hydrochloric acid	10	△	×
Urea	Saturated	◎	○
Hydrogen Sulfide	Low	◎	○
Methanol	50	◎	○
Typewriter oil		◎	○

◆Compliance Representation ◎Not Corroded ○Application Not Influenced △Slightly Corroded ✕Corroded