

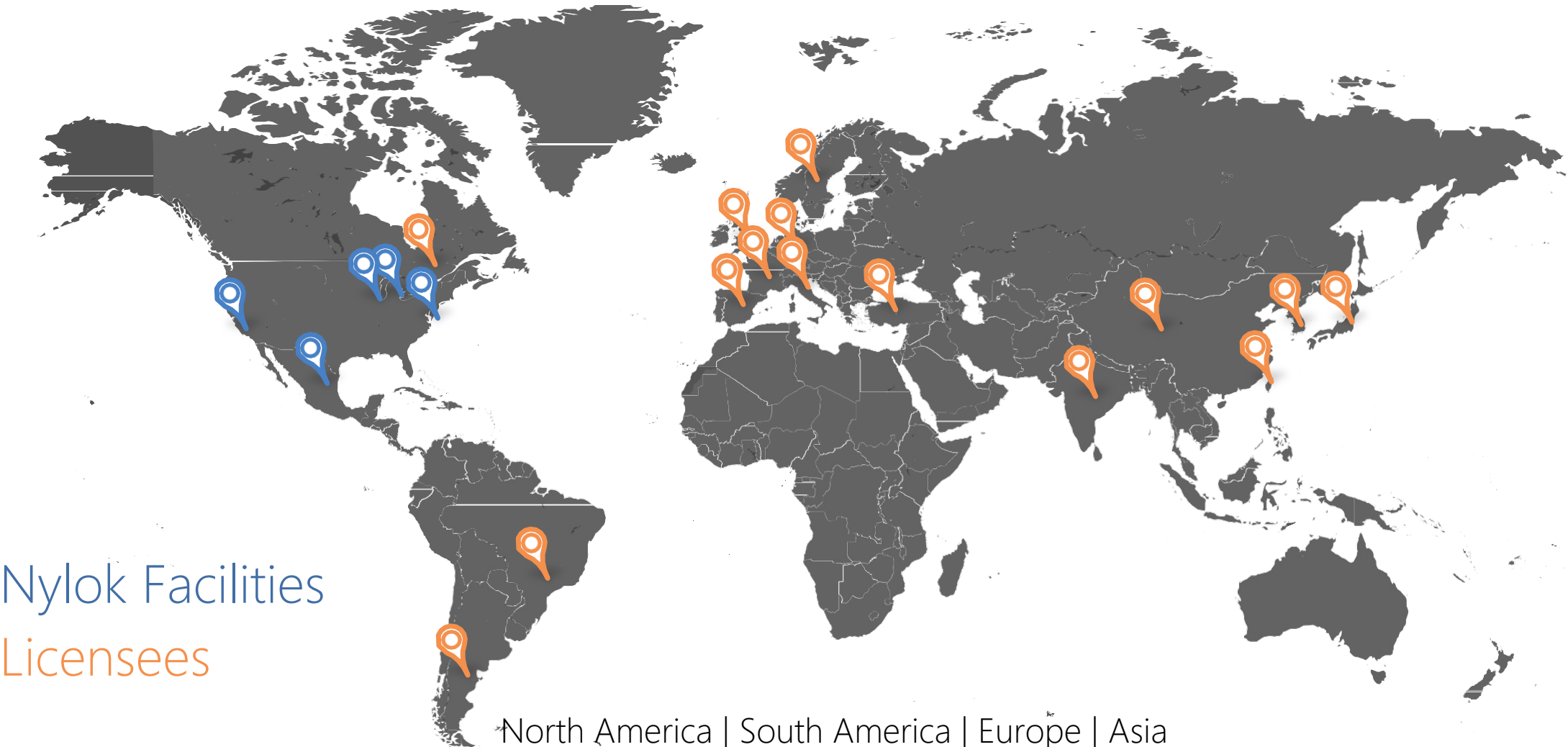


# Technical Overview



A Marmon/Berkshire Hathaway Company

# Global Support Network



Nylok Facilities  
Licensees

North America | South America | Europe | Asia

# Who We Are & The Role We Play



- First and largest fully dedicated processor of self locking products in the world
  - Proven history of solving customer fastener issues for over 75 years



Mission & Vision:

Developing Innovative Fastening Solutions Globally by Engineering Processes and Formulating Products



# Segmentation – Nylok Is Everywhere



Automotive



Aerospace & Defense



Rail



Industrial



Heavy Truck



Electronics



# Product Overview



## LOCKING

Mechanical  
Reusable



precote®



## SEALING



**Nyseal® 2.0**  
*The King of Under Head Sealants*

**NEW**  
Reusable



## ASSEMBLY AIDS



## PROTECTION



**NEW**



A Marmon/Berkshire Hathaway Company

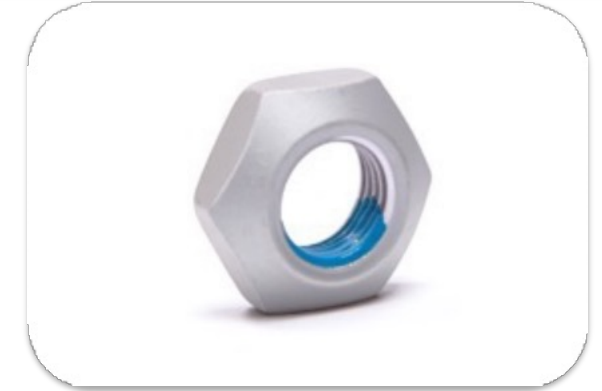


A Marmon/Berkshire Hathaway Company

# Mechanical Locking (Reusable)



Torq-Patch®



NylokHD™



Nytemp®



Pellet / Strip

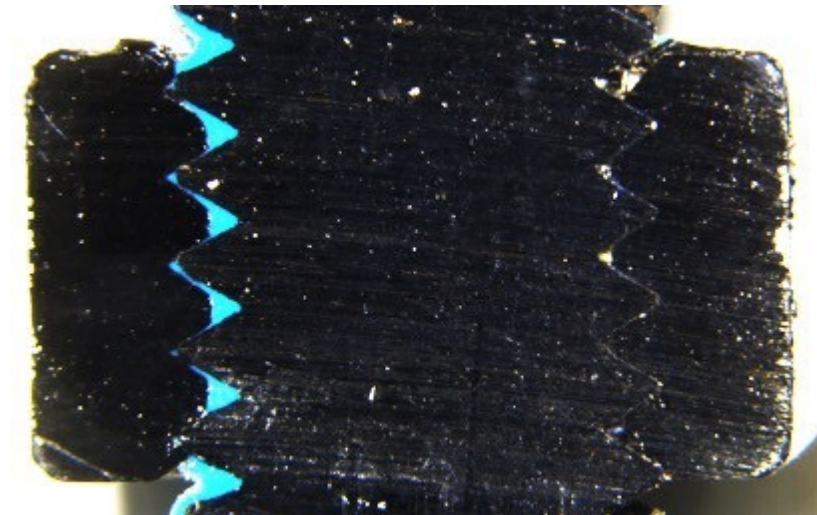
\*Available for internal and external threads

# Mechanical Locking (Reusable / Adjustable)



## Nylon Torq-Patch® (Tuflok® - Europe & Asia)

- Decrease clearance / increase friction / provide prevailing torque
  - Prevent vibration and loosening
- Coverage: 180° or 360°
- Immediate locking (No waiting for chemical reaction)
- Infinite shelf life
- Temperature Range:
  - -56° C (-70° F) to 121° C (250° F)
- Specifications:
  - IFI: 124 (Inch), 524 (Metric), 100/107 (Nut)
  - DIN: 267 Part 28
  - Military: MIL - DTL - 18240F, NASM15981
  - OEM: See website





# Mechanical Locking (Reusable / Adjustable)



## Nytemp® - High Temperature Patch

- Decrease clearance / increase friction
  - Prevent vibration and loosening
- Passes outgassing requirements
- Temperature Range:
  - -50° C (-70° F) to 232° C (450° F)
- Specifications:
  - IFI: 124 (Inch), 524 (Metric), 100/107 (Nut), 155, 555
  - Military: MIL - DTL - 18240F, NASM25027
  - NASA SP - R - 0022A
  - ANSI B.18.16.1M
  - AMS3670
  - OEM: See website





# Mechanical Locking (Reusable / Adjustable)



## NylokHD® (Tuflok® - Europe & Asia)

- Best in class reusability (varies by design / application)
- Reduced installation torque scatter
- Temperature Range:
  - -56° C (-70° F) to 121° C (250° F)
- Specifications:
  - IFI – 100/107
  - NASM25027 (Military)
  - OEM: See website



# Mechanical Locking (Reusable)



## Blue Nylon Pellet & Strip

- Decrease clearance / Increase friction
  - Prevent vibration and loosening
- Temperature Range:
  - Nylon (Standard): -70°F to 250°F (-56°C to 121°C)
  - Kel-F® (High Temp): -320°F to 350°F (-195°C to 177°C)
  - Vespel® (High Temp): -320°F to 700°F (-195°C to 371°C)
- Specifications:
  - IFI: 124 (Inch), 524 (Metric), 100/107 (nut), 155, 555
  - MIL DTL 18240F (Military)
  - OEM: See website



# Mechanical Locking Applications



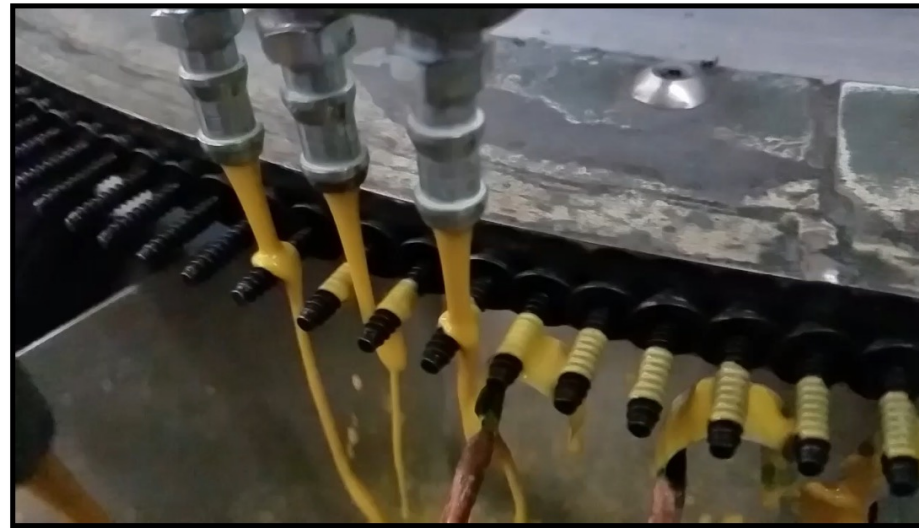


# Chemical Locking (1 Time Use)



precote®

30, 80, 85



ND<sup>®</sup>  
INDUSTRIES

Microspheres™ 593S Blue

\*Available for internal and external threads

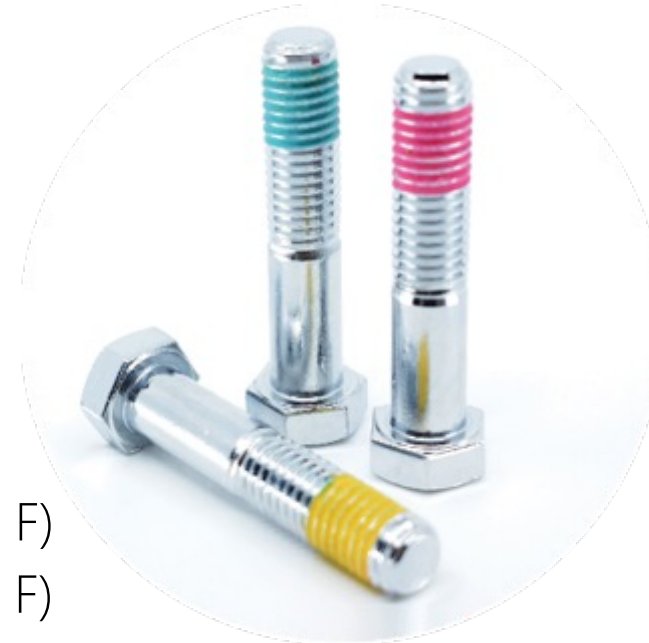


# Chemical Locking (1 Time Use)



## Precote® 30, 80 & 85

- Microencapsulated adhesive chemistry
- 360 degree coverage
- 4 year shelf life
- Seal (400 bar/5760 PSI)
- Removable without heat
- Temperature Range:
  - Precote® 30: -60° C (-76° F) to 150° C (302° F)
  - Precote® 80: -60° C (-76° F) to 170° C (338° F)
  - Precote® 85: -50° C (-58° F) to 170° C (338° F)
- Specifications:
  - IFI: 125 (Inch) / 525 (Metric)
  - DIN 267 Part 27
  - OEM: See website



Medium strength



High strength



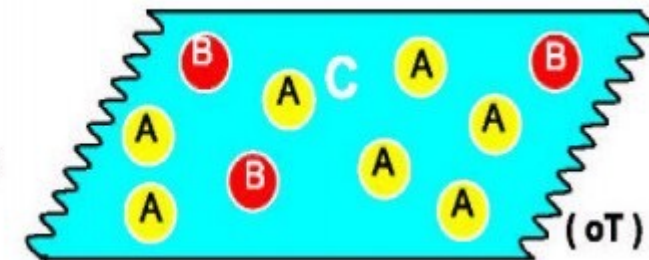
High strength w/  
torque tension  
modifier



④

A= acrylate

B= peroxide

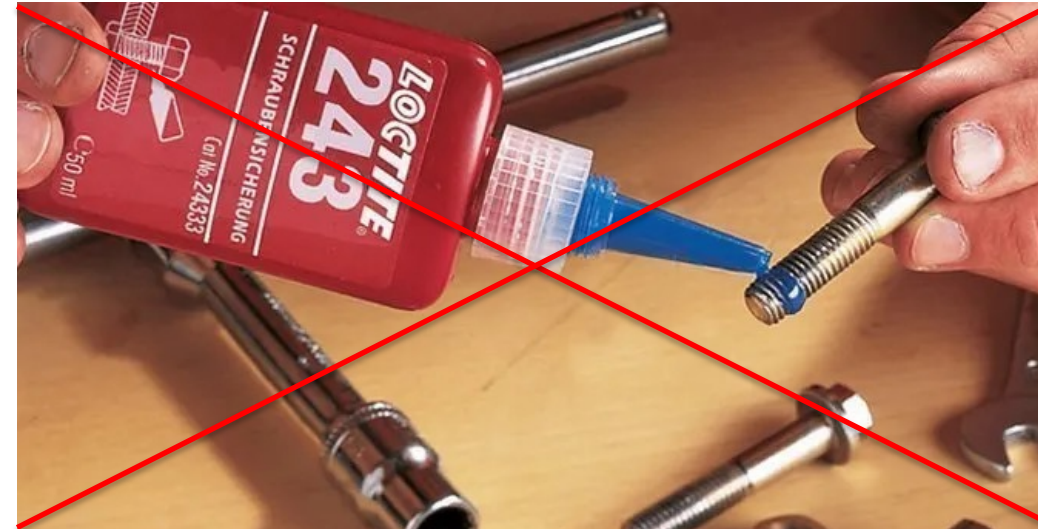


CONFIDENTIAL

# Chemical Locking (1 Time Use)

## Microencapsulated 593S (blue) and 1193S (orange)

- High strength locking
- Removable without heat
- 1 year shelf life
- Temperature Range:
  - 593S: -50° C to 116° C
  - 1193S: -50° C to 149° C
- Specifications:
  - IFI – 125 (Inch) / 525 (Metric)
  - DIN 267 Part 27
  - OEM: See website



# Chemical Locking Applications



**BELT EV**



LINCOLN





# Sealing



**NySeal<sup>®</sup> 2.0**  
*The King of Under Head Sealants*



Nyseal<sup>®</sup>



Nyplas<sup>®</sup>



**precote<sup>®</sup> 5**



**precote<sup>®</sup> 200**



# Sealing (Reusable)



## Nyseal® 2.0 – Reusable up to 5 times

- Eliminates leak paths and prevents leakage of fluids and gases up to 500 psi (3447kPa)
  - Eliminates O rings, gaskets and sealant compounds
  - Reusable
- Exceptional chemical resistance
- Does not break down mating acrylics surfaces and therefore prevents fogging of lighting lenses
- Temperature Range:
  - -60°C (-76°F) to +150°C (+302°F)
- Specifications
  - OEM: See website



**Nyseal® 2.0**  
*The King of Under Head Sealants*



## Nyplas®

- Provides sealing against water, moisture, dust, air and noise dampening
- Temperature Range:
  - -40°C (-40°F) to +150°C to (+300°F)
- Specifications:
  - OEM: See website



## Nyseal®

- Eliminates leak paths and prevents leakage of fluids and gases up to 500 psi (3447kPa)
  - Eliminates O rings, gaskets and sealant compounds
- Resistant to most chemicals
- Does not break down mating acrylics surfaces and therefore prevents fogging of lighting lenses
- Temperature Range:
  - -40°C (-40°F) to +66°C (+150°F)
- Specifications
  - OEM: See website



# Sealing

## Precote® 200

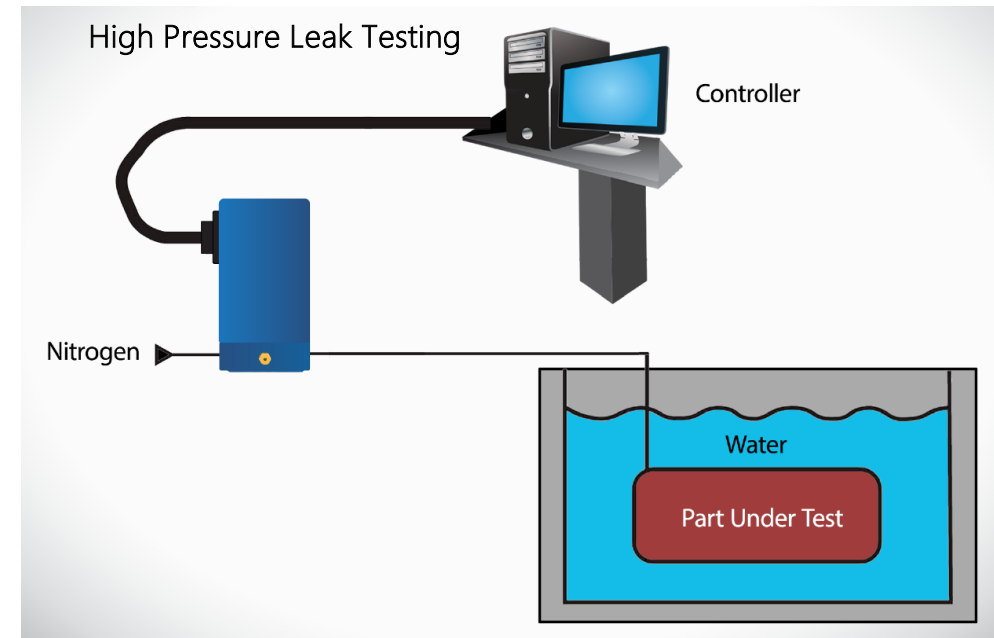
- Seals against oil, automotive fluids, water, dust, and moisture
- Does not break down mating acrylic surfaces preventing fogging of the lighting lenses
- Often used for LED lighting
- Temperature Range:
  - -40°C (-40°F) to +100°C (+212°F)
- Specifications:
  - OEM: See website



# Sealing

## Precote® 5

- Seals threads and prevents leakage
- Used in many cases to replace Teflon tape, and pipe sealant
- Pre-applied with consistent coverage in the proper location
- Reduces labor and improves quality
- Temperature Range:
  - $-60^{\circ}\text{C}$  ( $-75^{\circ}\text{F}$ ) to  $160^{\circ}\text{C}$  ( $320^{\circ}\text{F}$ )
- Specifications:
  - OEM: See website





# Sealing Applications

## Cessna



# Safety / Protection



Nyplate®



Nytorq®



Nystay®



Nycote® Plus &  
Nycote®

# Safety / Protection

## Nyplate®

- Pre-applied thread anti-seize
  - Accommodates high rundown on assembly without:
    - Galling
    - Torque chattering
    - Cold welding
- Stainless steel applications
- Temperature Range:
  - -60°C (-76°F) to +850°C (+1562°F)
- Specifications:
  - OEM: See website

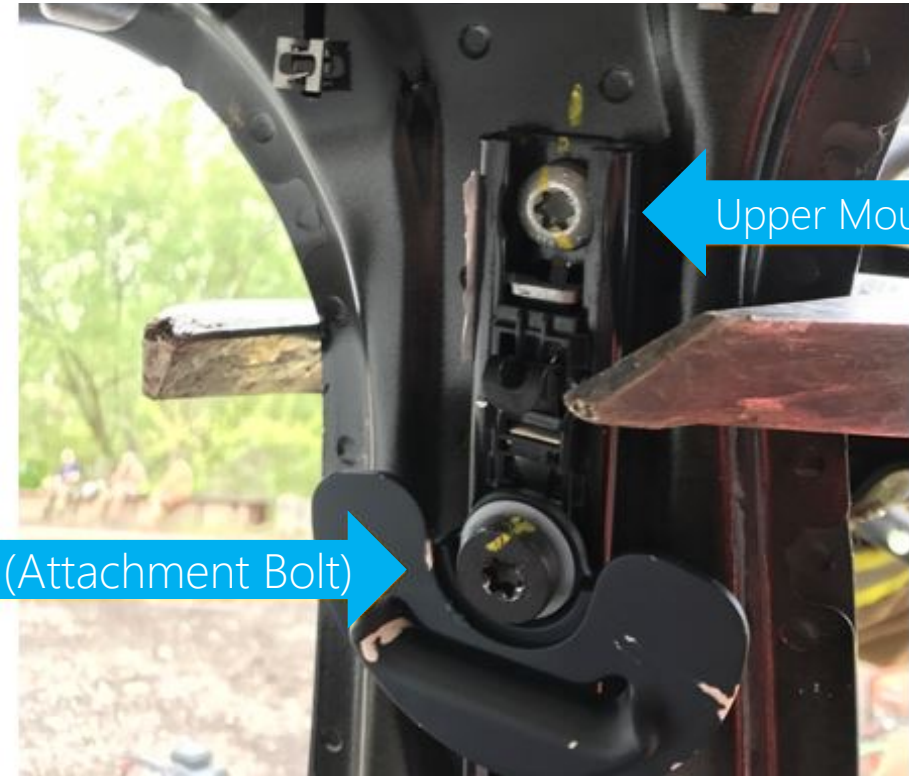




# Safety (Ergonomics)

## Nytorq®

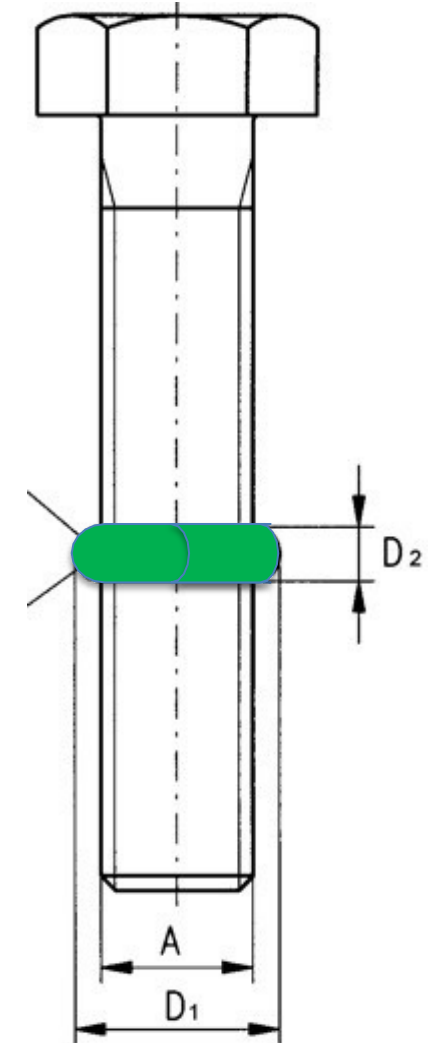
- Pre-applied thread lubricant (clear with UV tracer)
  - Reduces friction and prevents cold welding
  - Primarily used on thread forming fasteners
- Temperature Range:
  - -70°C (-94°F) to +120°C (+248°F)
- Specifications:
  - OEM: See website



# Safety (Assembly Ergonomics)

## Nystay®

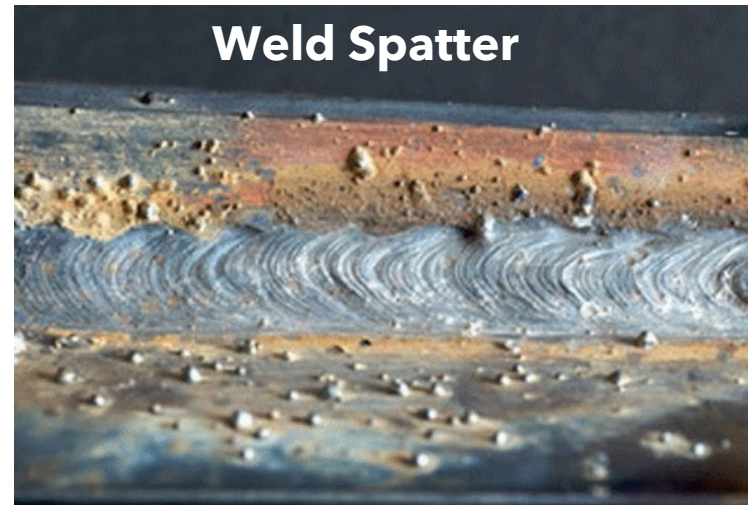
- Fastener retention solution allowing the fastener to be held in place during production and transport without affecting the end assembly
- Temperature Range:
  - $-40^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$ ) to  $+66^{\circ}\text{C}$  ( $+150^{\circ}\text{F}$ )
- Specifications:
  - OEM: See website



# Safety / Protection

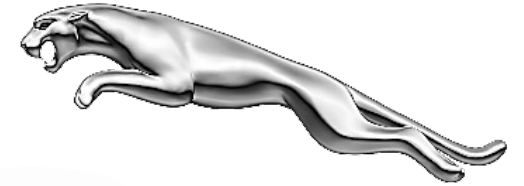
## Nycote® Plus (Nycote®)

- Thread masking prevents weld spatter, electro-deposited primers or coating from adhering to the threads
- Eliminates manual plug/inserts & re-tapping/rework
- Specifications:
  - OEM: See website





# Safety / Protection Applications



**JAGUAR**



# Galvanic Corrosion Prevention – NyShield®



## NyShield®

- Prevents galvanic corrosion between steel fasteners and the most extreme lightweight materials (magnesium, carbon fiber, aluminum, etc.)
- Eliminates the need for additional corrosion barriers (ex. washers)
- Also prevents short circuits by providing a di-electric barrier
- Temperature Range:
  - NyShield® is good to at least 125°C (257°F) under load (bearing surface of fastener)
  - NyShield® is good to at least 195°C (383°F) in a continuous-use environment (not under load)
- Specifications:
  - OEM: See website



# Galvanic Corrosion Prevention – NyShield®

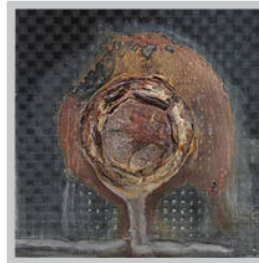


COATING FOR GALVANIC CORROSION PREVENTION

## – CORROSION TEST RESULTS –

15 Year Simulation

PER GMW17026



### CARBON STEEL FASTENERS ON CARBON FIBER

CONTROL:  
ELECTROPLATE ZN FINISH

NYSHIELD® OVER ELECTROPLATE  
ZN FINISH



### CARBON STEEL FASTENERS ON MAGNESIUM

CONTROL:  
ELECTROPLATE ZN FINISH

NYSHIELD® OVER ELECTROPLATE  
ZN FINISH

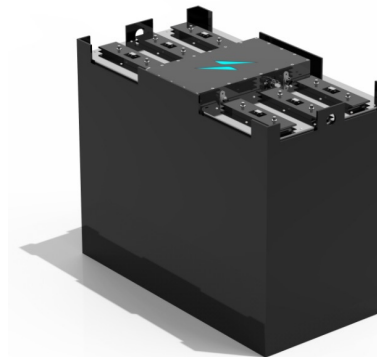




# Galvanic Corrosion Prevention – NyShield® Applications



Transforming Lives®



BOSSARD



# Additional Resources



- Questions [sales@nylok.com](mailto:sales@nylok.com)
- Download 101 presentation @ [nylok.com](http://nylok.com)
- LinkedIn
- YouTube