

## Product Description

ND Microspheres® TA 850 is a high strength, high temperature, controlled tension pre-applied adhesive for locking and sealing fastener assemblies. TA 850 is dual-encapsulated to provide a dry film of adhesive that is non-reactive until engagement with the mating fastener. Upon engagement, the reactive microspheres rupture and react to form a very strong chemical bond.

## Typical Applications

ND Microspheres® TA850 prevents loosening due to vibration, shock, and thermal effects. TA850 has a low and very predictable coefficient of thread friction providing a benefit to the user of highly predictable tightening strategies. It is used in a wide range of industries. Examples are included (but not limited) in the list below:

- Ring gear bolts
- Head Bolts
- Chassis Hardware
- Intake Manifold Bolts
- Military and Defense
- Large Appliances
- Off Road Equipment
- Farm Equipment
- Construction Fasteners
- Aerospace
- Agricultural Equipment
- Many more

## Advantages

- Ready for install without the mess and waste of bottled thread adhesives
- Precise application to only the specified region of threaded fastener
- Controlled coefficient of friction resulting in highly repeatable/predictable joint tension
- Bonds to all commonly used fastener finishes
- Long shelf-life when properly stored
- Seals against high pressures
- Can be applied to internal and external threaded fasteners
- Chemically resistant to most commonly used solvents and fluids

## Performance of Cured Material

	Typical Values
Appearance	Turquoise
Prevailing On Torque	<1.0 Nm
Breakaway Torque	>20 Nm
Prevailing Off	4-10 Nm
Temperature Range	-65°F to +400°F (-54°C to +200°C)
Break at 150°C	>20 Nm
Fixture Time	<30 minutes
Cure Time	24 hours
Thread Coefficient	0.12

## Environmental and Fluid Resistance

### Typical Breakaway Torque Values\*

Test	Result (Nm)
Ambient Temperature (6.2.1)	50
Heat Test at 150°C (6.2.2)	>20
5W-30 at 120°C (6.4)	>60
Diesel Fuel at RT (6.4)	>55
Coolant/Anti-Freeze at 90°C (6.4)	>60
Brake Fluid at 90°C (6.4)	>60
Long Term Thermal Stability (6.5)	>17

\*As tested per DIN 267-27. Section followed in parenthesis. Reported values on bolts complying with ISO 4017 with zinc organic finish mated with zinc electroplate nuts complying with ISO 4032

## Storage

Fasteners coated with TA850 are to be stored in a cool and dry location with temperatures between -10°C to +35°C and a maximum relative humidity of 65%.

## Note

Data are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is recommended that the product be tested in the application for which it is to be used.