

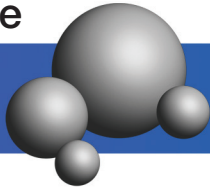
ND MICROSPHERES™

Fastener Adhesive

PreApplied

ND Industries® is ISO9001:2000 / AS9001B / QPL-18240F Listed / QSLM Registered

Acrylic Series



Automotive Approved

ND
INDUSTRIES

DESCRIPTION:

- ❑ ND Microspheres Acrylic Series of threadlocking products are microencapsulated, room temperature curing adhesives that can be applied to **male** or **female** threaded fasteners of virtually all sizes, configurations, materials and finishes.
- ❑ ND Microspheres Acrylic Series contains a microencapsulated activator that is suspended in a quick curing waterborne resin. The shearing forces caused by engagement with a mating part releases the activator and allow it to mix with the resin. The resulting chemical reaction rapidly bonds the surfaces, locking the parts together and sealing leak paths. ND Microspheres Acrylic Series offers consistent and predictable torque values and requires no heat or primers for curing.

Compare to Loctite** and Dri-Loc**

FEATURES:

- ❑ **Unaffected By Automotive Fluids:** ND Microspheres Acrylic Series resists and seals against most automotive fluids. Oil, water, antifreeze, and gasoline have virtually no effect on ND Microspheres Acrylic Series once the final cure has been achieved.
- ❑ **Variety of Strengths, Colors, & Viscosities:** ND Microspheres Acrylic Series is available in a variety of colors for easy part inspection and in different strengths to fit the desired application.
- ❑ **Fast Fixture Times:** Under typical conditions fixture is achieved within 5 minutes.
- ❑ **High Temperature & Torque Sensitive Formulas:** ND also manufactures formulations of ND Microspheres Acrylic Series that are specifically intended for use in high temperature or torque/tension sensitive applications.
- ❑ **Saves Money:** ND Microspheres Acrylic Series thread adhesives are less expensive than applying bottled threadlocking compounds at the point of assembly.
- ❑ **Suitable for Production Coating:** Each formula of the ND Microspheres Acrylic Series family is available in viscosities suitable for use on a broad range of production coating equipment.



Attention Production Fastener Coaters:

ND Microspheres Acrylic Series is available in liquid form for application by fastener coating companies.

FEATURES CONTINUED:

- ❑ **Minimal Clean-up Requirements:** Clean-up is a simple process that requires only soap and water.

Particular formulations of the ND Microspheres Acrylic Series meets or exceeds the performance requirements of the following specifications:

AUTOMOTIVE

- ❑ DaimlerChrysler PF-6616 & MC-CC-76
- ❑ Ford ES-20007-S100, ES-20010-S100, ESS-M11P24-A1 & ESS-M11P24-A2
- ❑ General Motors GM6175M & GM6194M

INDUSTRIAL FASTENER INSTITUTE

- ❑ IFI-125
- ❑ IFI-525

OEM

- ❑ Detroit Diesel 80K15
- ❑ Rockwell International Q-29
- ❑ Caterpillar 1E2486

For a complete list, contact ND INDUSTRIES.

PROPERTIES SUMMARY As Applied to Fastener:

Product Formula	AA0695	AA0696	AA0795	AA0796	AA0895	AA0896	AA0995	AA0996	AA1095	AA1096	AA1195	AA1196	AA1295	AA1296	AA1395	AA1396
Color	Yellow	Yellow	Yellow	Yellow	Green	Green	Silver	Silver	Pink	Pink	Blue	Blue	Pink	Pink	Green	Green
Primary Usage	General Purpose	General Purpose	High Temp.	High Temp.	Medium Strength	Medium Strength	Low Strength	Low Strength	Plated Surfaces	Plated Surfaces	High Strength High Lubricity	High Strength High Lubricity	Plated Surfaces	Plated Surfaces	Medium Strength	Medium Strength
Typical Lead Threads (See Note 1)	1 to 3	1 to 3	1 to 3	1 to 3	1 to 3	1 to 3	1 to 3	1 to 3	1 to 3	1 to 3	1 to 3	1 to 3	1 to 3	1 to 3	1 to 3	1 to 3
Typical Coating Length (See Note 2)	1.5 x Diameter	1.5 x Diameter	1.5 x Diameter	1.5 x Diameter	1.5 x Diameter	1.5 x Diameter	1.5 x Diameter	1.5 x Diameter	1.5 x Diameter	1.5 x Diameter	1.5 x Diameter	1.5 x	1.5 x	1.5 x	1.5 x	1.5 x
Average On Torque** (in lbs.) (Nm)	<10 <1.13	<10 <1.13	<10 <1.13	<10 <1.13	<10 <1.13	<10 <1.13	<10 <1.13	<10 <1.13	<10 <1.13	<10 <1.13	<10 <1.13	<10 <1.13	<10 <1.13	<10 <1.13	<10 <1.13	<10 <1.13
Break/Prevail Torque** After Full Cure (in lbs.) (Nm)	210/250 24/28	210/250 24/28	225/250 25/28	225/250 25/28	200/185 23/21	200/185 23/21	175/100 20/12	175/100 20/12	270/260 30/30	270/260 30/30	210/95 24/11	210/95 24/11	300/240 34/27	300/240 34/27	245/150 28/17	245/150 28/17
Temperature Range °F °C	-65/300 -54/150	-65/300 -54/150	-65/400 -54/200	-65/400 -54/200	-65/300 -54/150	-65/300 -54/150	-65/300 -54/150	-65/300 -54/150	-65/300 -54/150	-65/300 -54/150	-65/300 -54/150	-65/300 -54/150	-65/300 -54/150	-65/300 -54/150	-65/300 -54/150	-65/300 -54/150
Lubricity	Medium	Medium	Low	Low	Medium	Medium	Medium	Medium	Low	Low	High	High	Medium	Medium	Medium	Medium
Fixture Time	5 Min.	5 Min.	5 Min.	5 Min.	5 Min.	5 Min.	5 Min.	5 Min.	5 Min.	5 Min.	5 Min.	5 Min.	5 Min.	5 Min.	5 Min.	5 Min.
On-Part life***	4 Years	4 Years	4 Years	4 Years	4 Years	4 Years	4 Years	4 Years	4 Years	4 Years	4 Years	4 Years	4 Years	4 Years	4 Years	4 Years
Compare To	Loctite Dri-Loc 200	Loctite* Dri-Loc* 200	Loctite Dri-Loc 201	Loctite Dri-Loc 201	Loctite Dri-Loc 202	Loctite Dri-Loc 202	Loctite Dri-Loc 203	Loctite Dri-Loc 203	Loctite Dri-Loc 204	Loctite Dri-Loc 204	Loctite Dri-Loc STS	Loctite Dri-Loc STS	Loctite Dri-Loc 211	Loctite Dri-Loc 211	Loctite Dri-Loc 218	Loctite Dri-Loc 218
Full Cure Time @ Room Temp.	72 Hrs	72 Hrs	72 Hrs	72 Hrs	72 Hrs	72 Hrs	72 Hrs	72 Hrs	72 Hrs	72 Hrs	72 Hrs	72 Hrs	72 Hrs	72 Hrs	72 Hrs	72 Hrs

As Applied to Fastener

Brookfield Viscosity (cPs) Spindle 6 @ 20 RPM	12,000	800	12,000	800	12,000	800	12,000	800	12,000	800	12,000	800	12,000	800	12,000	800
Resin (anaerobic)	Methacrylate	Methacrylate	Methacrylate	Methacrylate	Methacrylate	Methacrylate	Methacrylate	Methacrylate	Methacrylate	Methacrylate	Methacrylate	Methacrylate	Methacrylate	Methacrylate	Methacrylate	Methacrylate
Specific Gravity	1.05 to 1.15	1.05 to 1.15	1.05 to 1.15	1.05 to 1.15	1.05 to 1.15	1.05 to 1.15	1.05 to 1.15	1.05 to 1.15	1.05 to 1.15	1.05 to 1.15	1.05 to 1.15	1.05 to 1.15	1.05 to 1.15	1.05 to 1.15	1.05 to 1.15	1.05 to 1.15
Fixture Time Cleveland Open Cup	Above 200°F/ 93°C	Above 200°F/ 93°C	Above 200°F/ 93°C	Above 200°F/ 93°C	Above 200°F/ 93°C	Above 200°F/ 93°C	Above 200°F/ 93°C	Above 200°F/ 93°C	Above 200°F/ 93°C	Above 200°F/ 93°C	Above 200°F/ 93°C	Above 200°F/ 93°C	Above 200°F/ 93°C	Above 200°F/ 93°C	Above 200°F/ 93°C	Above 200°F/ 93°C

Note: See MSDS for Safety & Material Handling Instructions.
 Note 1: Other colors available upon request.
 Note 2: Customer may specify location & coating length.
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* Loctite and Dri-Loc are registered trademarks of the Henkel Corporation.
 ** Based on 3/8 - 16 dry phosphated bolts and nuts.
 *** Varies due to storage conditions.

For more information on ND Microspheres Acrylic Series, or any of ND Industries' other quality fastening products, contact your nearest ND Service Center:

ND Western Fastener Processing Division
 13929 Dinard Avenue
 Santa Fe Springs, California 90670
 Phone: 562-926-3321
 FAX: 562-926-4266

ND Midwestern Fastener Processing Division/Detroit
 1000 North Crooks Road
 Clawson, Michigan 48017
 Phone: 248-655-2529
 FAX: 248-655-2562

ND Industries Asia, Inc./Taiwan
 4-5 Lane 832 An-Jau Road
 Yen-Chou
 Kaoshiung, Taiwan R.O.C.
 Phone: 886-7616-7733
 Fax: 886-7616-6611

ND Southwestern Fastener Processing Division
 3611 Dalworth Street
 Arlington, Texas 76011
 Phone: 817-633-2788
 FAX: 817-649-7730

ND Midwestern Fastener Processing Division/Cleveland
 9051 Dutton Drive
 Twinsburg, Ohio 44087
 Phone: 330-425-3167
 FAX: 330-425-3065

ND Electronics (Kunshan) Co., Ltd.
 395 Ye Cheng Zhong Road
 Kunshan City, China 215300
 Phone: 86-512-57765335
 Fax: 86-512-57755353

ND Midwestern Fastener Processing Division/Chicago
 1840 Raymond Drive
 Northbrook, Illinois 60062
 Phone: 847-498-3600
 FAX: 847-498-1582

ND Southeastern Fastener Processing Division
 2220-C Center Park Drive
 Charlotte, North Carolina 28217
 Phone: 704-329-0033
 FAX: 704-329-0975

ND Midwestern Fastener Processing Division/Rockford
 3954 South Central Avenue
 Rockford, Illinois 61102
 Phone: 815-963-3600
 FAX: 815-963-4195

ND Eastern Fastener Processing Division
 128-2 Bauer Drive
 Oakland, New Jersey 07436
 Phone: 201-651-1500
 FAX: 201-651-1400

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Specialty Sales
 Manufacturer's Representative Agency
 Fasteners and Electronic Components

Ira Shushan PH 805.491.5161 Fax 805.491.5162 Email: IShushan@aol.com

Robert Lopez PH 562.833.6234 Fax 562.262.2714 Email: RLopez@SpecialtySalesReps.com

Corporate Offices



1000 North Crooks Road · Clawson, Michigan 48017 USA · Phone: 248-288-0000 · Fax: 248-288-0022
 Visit our web site at www.ndindustries.com · e-mail: ndinfo@ndindustries.com

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