3M™ Scotch-Weld™

Cyanoacrylate, Anaerobic, Adhesives, Primers and Activators

Selection Guide

3M

Now more than ever, the right 3M adhesive for the job

Designers and engineers increasingly rely on adhesives for improved end use performance, greater design flexibility, and more efficiency in putting their products together.

Backed with more than 50 years experience, 3M continues to meet that demand with an enhanced and growing line of products that help customers more readily match the right adhesive to a specific job.

The latest expansion is the addition of 3M™ Scotch-Weld™ Industrial Adhesives. The added cyanoacrylate, anaerobic, UV-curing, and structural acrylic formulations expand the 3M job-matched options for substrate combinations, productivity, bond reliability, and cost-effectiveness.

Known as instant adhesives, these liquid and gel formulations cure in seconds to bond many substrates. The line includes low bloom, low odour formulations, high temperature performance, and unique rubber-toughened formulations for impact resistance.

For threadlocking, retaining, gasketing, and sealing, anaerobic adhesives cure to a tough plastic in the absence of oxygen and in the presence of metal. Select from a range of viscosities, chemical properties, and break and prevailing strengths.

3M™ Scotch-Weld™ Cyanoacrylate Adhesives Product Selection

		Low Odour	High Temperature	Rubber Toughened	Surface Insensitive	General Purpose	Engineered Grade	Super Fast	Flexible	Metal Bonder	Ethyl Based
Operating Conditions	Intermittent Operating Temp to 250°F (121°C)		SB98								
	Intermittent Operating Temp to 223°F (106°C) and constant thermal cycling			PR80							
	Max Impact, Flex and/or Peel Strength			PR80					PR851		
Unique properties	Bonding "Up Close" or in Confined Space	LO100									
	Eliminate Blooming or Cosmetic Critical	LO100				SB14 w/ AC113					
Substrates	Wood, Leather, Fabric or Acidic Surfaces				SI1500			SF100			
	Metal to Metal or Plated Surfaces					SB14				SB30	
	EPDM, Viton, Santoprene, Nylon, Acetal						PR600	SF100			
	Dirty, Oily or Contaminated Surfaces				SI1500			SF100			
	LSE plastics						PR600 w/ Primer AC77	SF100 w/ Primer AC77			
	General Bonding-Metal Plastics and Rubbers					SB14					EC100
	Treated metals to dissimilar substrates									SB30	
	General Purpose gap filling /vertical applications (all substrates)				PR54						
Process time	Fast Cure and some Impact, Flex, Peel								PR851		
	High Speed Automated Dispensing						PR600	SF100			
	Extra positioning time (slower curing)										EC100

Primary Secondary

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Super Fast Cyanoacrylate Adhesives

Properties

- Super fast cure for high speed production
- Exceptional performance on difficult-to-bond plastics and rubbers; acidic surfaces such as wood, leather, cardboard, and oily surfaces

Markets/Application Ideas

- Automotive
- Leather working
- Electronics
- Appliance
- Hand tools
- Power tools

Product	Typical Use	Colour	Chemical Type	Typical Viscosity (cps)	Temperature Range	Time to Handling	Full cure (hours)
SF20	Optimum performance on wide range of rubber and plastic	Clear	Ethyl Hybrid	20	-65° to 180°F (-54° to 82°C)	3-30 sec.	24
SF100	Fast cure, high strength with EPDM and other elastomers.			100		3-30 sec.	

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Low Odour Cyanoacrylate Adhesives

Properties

- Low blooming/frosting for visual appeal; eliminates chlorosis (white residue at the joint)
- Reduces need for sophisticated ventilation equipment

Markets/Application Ideas

- Cosmetic cases
- Black substrates
- Close-up bonding
- Appearance-critical applications

Product	Typical Use	Colour	Chemical Type	Typical Viscosity (cps)	Temperature Range	Time to Handling	Full cure (hours)
LO5	Very low viscosity wicking grade	Clear	Methoxyethyl	5	-65° to 160°F (-54° to 71°C)	5-60 sec.	24
LO100	Low-medium viscosity for close fitting parts			100		10-60 sec.	

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Rubber-Toughened Cyanoacrylate Adhesives

Properties

- Unique elastomer maximizes resistance to impact, peel, and thermal cycling
- Flexible bond lines for bonding flexible and dissimilar substrates

Markets/Application Ideas

- Automotive
- Electric motors
- Electronics
- Appliance
- Hand tools
- Power tools

Product	Typical Use	Colour	Chemical Type	Typical Viscosity (cps)	Temperature Range	Time to Handling	Full cure (hours)
PR80	Low viscosity for close fitting parts	Black	Ethyl Hybrid	300	Continuous -65° to 200°F (-54° to 93°C)	20-50 sec.	24
PR10	High viscosity for gap filling			3500	Intermittent -65° to 225°F (-54° to 107°C)	20-90 sec.	

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Flexible Cyanoacrylate Adhesives

Properties

- Extended resistance to impact, vibration, stress, peel, and humidity
- Faster curing than rubber-toughened

Markets/Application Ideas

- Automotive
- Appliance
- Electronics
- Hand tools
- Power tools

Product	Typical Use	Colour	Chemical Type	Typical Viscosity (cps)	Temperature Range	Time to Handling	Full cure (hours)
PR851	Medium viscosity with some gap filling	Clear	Ethyl Hybrid	300	-65° to 160°F (-54° to 71°C)	10-35 sec.	24

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High Temperature Cyanoacrylate Adhesives

Properties

- Superior resistance to high temperature, thermal cycling and shock is required

Markets/Application Ideas

- Appliance
- Electronics
- Electric Motors
- Automotive
- Transformers

Product	Typical Use	Colour	Chemical Type	Typical Viscosity (cps)	Temperature Range	Time to Handling	Full cure (hours)
HT40	Low viscosity for close fitting parts	Clear	Ethyl Hybrid	40	Continuous -65° to 223°F (-54° to 106°C) Intermittent -65° to 250°F (-54° to 121°C)	5-20 sec.	24
SB98	Medium viscosity with some gap filling			500	Continuous -65° to 210°F (-54° to 99°C) Intermittent -65° to 250°F (-54° to 121°C)	15-40 sec.	

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Engineered Grade Cyanoacrylate Adhesives

Properties

- Exceptional performance on difficult-to-bond plastics and rubbers, together or in combination with metals and/or composites
- Superior performance on PVC, ABS, nylon, EPDM, Santoprene, and Viton

Markets/Application Ideas

- Automotive
- Appliance
- Electronics
- Hand tools
- Power tools

Product	Typical Use	Colour	Chemical Type	Typical Viscosity (cps)	Temperature Range	Time to Handling	Full cure (hours)
PR5	Very low viscosity wicking grade for plastics/rubbers	Clear	Ethyl Hybrid	5	-65° to 180°F (-54° to 82°C)	1-10 sec.	24
PR40	Low viscosity for close fitting plastics/rubber parts			40		3-20 sec.	
SB04	General purpose, low viscosity standard rubber bonder			100		10-30 sec.	

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Product	Typical Use	Colour	Chemical Type	Typical Viscosity (cps)	Temperature Range	Time to Handling	Full cure (hours)
SB14	General purpose, low viscosity plastic bonder	Clear	Ethyl Hybrid	100	-65° to 180°F (-54° to 82°C)	10-30 sec.	24
PR600	Medium viscosity with some gap filling for plastics/rubbers			600		4-25 sec.	
SB16	General purpose, high viscosity for gap filling			1500		20-100 sec.	
PR54	Fast cure, gel viscosity for max gap filling			Gel		3-60 sec.	

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Metal Cyanoacrylate Adhesives

Properties

- Optimum performance and high strength bonds on metal to metal
- Bond galvanized, anodized, and other difficult-to-bond metals
- Two standard viscosities

Markets/Application Ideas

- Costume Jewelry
- Plated Metals
- Treated Metals
- Metal Working

Product	Typical Use	Colour	Chemical Type	Typical Viscosity (cps)	Temperature Range	Time to Handling	Full cure (hours)
SB93	Low viscosity to penetrate between parts	Clear	Methyl	5	-65° to 180°F	15-35 sec.	24
SB30	Multi-purpose metal bonder			100		5-20 sec.	

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Surface Insensitive Cyanoacrylate Adhesives

Properties

- Bond rough, porous, contaminated and acidic substrates where other cyanoacrylates fail
- Cure fast at low humidity

Markets/Application Ideas

- Woodworking
- Hobby
- Leather
- Luggage & Fabric
- Costume Jewelry

Product	Typical Use	Colour	Chemical Type	Typical Viscosity (cps)	Temperature Range	Time to Handling	Full cure (hours)
SB20	Very low viscosity wicking grade	Clear	Ethyl Hybrid	2	-65° to 180°F (-54° to 82°C)	15-35 sec.	24
SB95	Low viscosity for close fitting parts			40		2-20 sec.	
SI100	Low-med viscosity for medium gaps			100		3-20 sec.	
SI1500	High viscosity for gap filling			1500		5-60 sec.	
SB22	Very high viscosity for gap filling			2500		15-40 sec.	
SB09	Fast cure, gel viscosity for max gap filling			Gel		3-60 sec.	

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General Purpose Cyanoacrylate Adhesives

Properties

- Bond a wide variety of substrates
- Available in wide variety of viscosities
- Slower curing

Markets/Application Ideas

- Automotive
- General Bonding
- Consumer Products
- Toys
- Rubber/Plastic Assembly

Product	Typical Use	Colour	Chemical Type	Typical Viscosity (cps)	Temperature Range	Time to Handling	Full cure (hours)
EC5	Very fast cure for pre-assembled parts	Clear	Ethyl	5	-65° to 180°F (-54° to 82°C)	5-15 sec.	24
EC40	General purpose, fast curing			40		10-30 sec.	
EC100	General purpose, fast curing			100		10-40 sec.	
EC600	Higher viscosity to reduce migration from bond area			600		5-60 sec..	

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Product	Typical Use	Colour	Chemical Type	Typical Viscosity (cps)	Temperature Range	Time to Handling	Full cure (hours)
EC1500	Slower cure for porous materials or gap filling	Clear	Ethyl	1500	-65° to 180°F (-54° to 82°C)	20-60 sec.	24
EC2500	Slow cure for porous material or gap filling			2500		20-60 sec.	

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Cyanoacrylate Primers, Activators, and Debonders

Product	Typical Use
AC12	Cyanoacrylate accelerator with isopropyl alcohol formulation for insensitive plastics, cosmetically critical bond lines, and medical applications
AC77	Cyanoacrylate polyolefin primer for very fast bonding of difficult-to-bond polyethylene and polypropylene
AC113	Cyanoacrylate general purpose accelerator will not attack plastics

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3M™ Scotch-Weld™ Anaerobic Adhesives

Threadlocker Anaerobic Adhesives

Properties

- Prevent vibration loosening
- Seal against leakage and corrosion
- Replaces wide variety of traditional and sometimes ineffective vibration proofing methods, reducing cost and increasing performance

Product	Typical Use	Colour	Typical Viscosity (cps)	Temperature Range	Time to Handling	Full cure (hours)
TL22	Screwlock – Low removal torque for small fasteners less than a 1/4" (6mm) (HTR*)	Purple	1200	-65° to 300°F (-54° to 149°C)	< 20 min.	24
TL42	Nutlock – Medium strength, general purpose (HTR*)	Blue	1200		< 20 min.	

* Hand tool for removal

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Threadlocker Anaerobic Adhesives (continued)

Product	Typical Use	Colour	Typical Viscosity (cps)	Temperature Range	Time to Handling	Full cure (hours)
TL43	Oil tolerant, medium strength general purpose (HTR*)	Blue	3300	-65° to 300°F (-54° to 149°C)	< 20 min.	24
TL62	Studlock – High strength with controlled torque tension (HHR**)	Red	1600			
TL71	Permanent studlock for bolts and studs up to 1" (25mm) (HHR**)		500			
TL72	High temperature studlock with gap filling for larger diameter coarse threaded parts (HHR**)		7000	-65° to 450°F (-54° to 232°C)		
TL77	Heavy duty permanent for fasteners up to 1.5" (38mm) with coarse threads (HHR**)		7000	-65° to 300°F (-54° to 149°C)	< 60 min.	
TL90	Penetrating adhesive for pre-assembled fasteners and porosity sealing of welds (HHR**)	Green	20	-65° to 300°F (-54° to 149°C)	< 20 min.	

* Hand tool for removal
** Heat and hand tool for removal

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Pipe Sealant Anaerobic Adhesives

Properties

- Replace traditional PTFE tapes and dope for thread and pipe sealing
- Seal instantly and will not shred, evaporate, or shrink
- Resist pressure, vibration and temperature cycling, hydraulic fluids, chemicals, oil, fuel, and lubricants

Product	Typical Use	Colour	Typical Viscosity (cps)	Temperature Range	Seal to Operating Pressure (hours)
HP45	High pressure sealant for all hydraulic and pneumatic fittings; will not clog valve or filters	Purple	14,000	-65° to 300°F (-54° to 149°C)	4
HP69	High pressure sealant for all fine threaded hydraulic and pneumatic fittings	Brown	500		

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Pipe Sealant Anaerobic Adhesives (continued)

Product	Typical Use	Colour	Typical Viscosity (cps)	Temperature Range	Seal to Operating Pressure (hours)
PS65	General purpose for applications requiring. easy disassembly	White	Paste	-65° to 400°F (-54° to 204°C)	4
PS67	Fast curing paste sealant for inactive surfaces such as stainless steel		Paste		
PS92	High temperature for sealing tapered and parallel threaded components		Paste		

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Retaining Compound Anaerobic Adhesives

Properties

- Used in the assembly of coaxial components such as bearings, gears, shafts bushes, pulleys, cylinder liners and rotors
- Increase load bearing characteristics of cylindrical joints, reducing assembly stresses, assembly costs and preventing fretting and corrosion

Product	Typical Use	Colour	Typical Viscosity (cps)	Temperature Range	Time to Handling	Full cure (hours)
RT09	For tight tolerances and press fit augmentation	Green	125	-65° to 300°F (-54° to 149°C)	10-30 min.	24
RT20	For assembly of automotive/marine cylinder liners and heat exchanger tubes		7000	-65° to 450° F (-54° to 232°C)	30-40 min.	
RT35*	High strength for slip fits		2000	-65° to 300°F (-54° to 149°C)	10-60 min.	
RT40*	Secures all types and sizes of bearings, shafts and cylindrical parts		600	-65° to 400°F (-54° to 204°C)	10-15 min.	

*Made to order

Continued on next page.

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Retaining Compound Anaerobic Adhesives (continued)

Product	Typical Use	Colour	Typical Viscosity (cps)	Temperature Range	Time to Handling	Full cure (hours)
RT41	Medium strength for disassembly for service and bearing re-use	Tan	600	-65° to 300°F (-54° to 149°C)	15-20 min.	24
RT60	High strength, high viscosity paste	Grey	Paste		10-30 min.	
RT80	High strength, high viscosity to bond rigid assemblies	Green	1600		5-15 min.	
RT142	Seal core plugs in engines or assembly or repair of loose-fitting parts	Blue	10,000		5-15 min.	

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Gasket Maker Anaerobic Adhesives

Properties

- Create formed-in-place gaskets on flanges and housings to eliminates need for large inventories of pre-cut gaskets
- Will not relax or shrink
- Exceptional pressure and solvent resistance

Product	Typical Use	Colour	Typical Viscosity (cps)	Temperature Range	Cured Speed Unprimed (Primed)	Cured State
GM04	Instant low pressure seal for gaps to .030"	Orange	Paste (-54° to 149°C)	-65° to 300°F (30 min.-4 hrs.)	4-24 hrs. .	Rigid
GM10	Making or dressing gaskets in rigid assemblies; can be screen printed; high temperature resistance	Red	Paste	-65° to 400°F (-54° to 204°C)		
GM15	General purpose; flexible to withstand vibration	Purple	Paste	-65° to 300°F (-54° to 149°C)	1-12 hrs. (15 min.-2 hrs)	Flexible
GM18	Instant low pressure seal without a primer on mating aluminum flanges	Red	Paste		4-24 hrs. (30 min.-4 hrs)	

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Anaerobic Adhesives Primers

Product	Typical Use
AC471	Fast-acting surface cleaner and primer for use with all anaerobic adhesives; seven day part life for pre-application
AC649	Acetone-based green primer for inactive or very cold surfaces; 30 day part life for pre-application

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