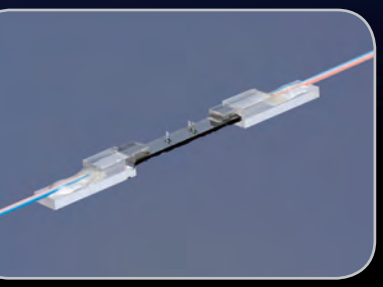
amsTECHNOLOGIES
where technologies meet solutions

Optical Adhesive Solutions

Strong bonds to glass, metal, ceramics and plastics



- Adhesives for Optical Path Link-up
- Adhesives for Array Assemblies
- High Precision Adhesives
- High/Low Refractive Index Adhesives
- Sealant for Optical Parts
- Optical Waveguide Formation Resin
- Dispensing Solutions

OPTICAL
TECHNOLOGIES

Optical, Power and Thermal Management Technologies represent the biggest technological challenges facing any engineer.

OUR SOLUTION APPROACH

AMS Technologies' solution approach has helped hundreds of customer projects to move from concept to production. Helping you to understand our capabilities, we invite you to browse a list of the many projects that we have successfully completed over a timeframe closely approaching 30 years.

Our three key competencies Optical, Power and Thermal Management have no logical bits and bytes, nor industry qualification standards. Hence the design of a system and the choice of the right technology, supplier and products can only be based on knowledge and experience in those fields.

There are manifold fields of applications in our key markets

- Medical
- Industrial
- Renewable Energies
- Research & Scientific
- Defence & Aerospace

where we serve

OEM customers with

- Consulting
- Designing
- Prototyping
- Validating/Testing
- Turnkeying

Endusers B2B with

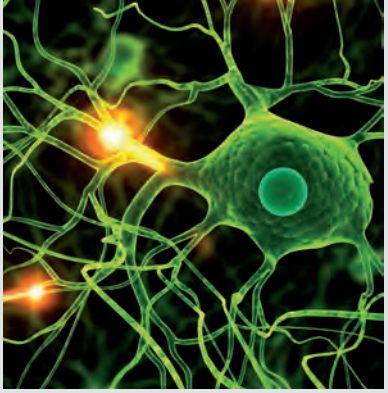
- Demonstrating
- Installing
- Training
- Servicing
- Repairing

AMS Technologies has built a comprehensive knowledge base in those three key competencies, enabling us to provide customers with complete solutions. Over and above the mere product support for standard products, our solutions can include:

- The development together with the customer of specification sheets for customized components, subsystems, modules and systems, all based on customer needs
- Effective project management of any customized product development
- Higher level design services for system-level prototypes
- Interdisciplinary system-level integrated design comprising all three key competencies:
  Optical, Power and Thermal Management Technologies
- Appropriate subcontractor selection and production support for system-level integration
- Proper vetting of technologies and suppliers
- Simulations and modeling of system-level designs
- Installation, training and servicing of equipment and instrumentation

- Optical Technologies
- Power Technologies
- Thermal Management





AMS Technologies is Europe's leading solution provider and distributor for Optical, Power and Thermal Management Technologies

WHERE TECHNOLOGIES MEET SOLUTIONS

For more than 30 years, we at AMS Technologies have been supporting the European market with leading, innovative technologies and products that have allowed our customers to take prime position in their chosen markets.

AMS Technologies is a leading solution provider and distributor of high-tech, leading-edge components, systems and equipment, with more than 30 years of experience to date and currently serving more than 2000 European customers.

We are the specialists in both componentry and complete solutions for Optical technology, Thermal Management and Power Technology fields, with access to and long standing relationships with the most advanced manufacturers in each of those fields. Drawing extensively on our experience in each of these differing technologies, and coupling this with our broad system-level competence, we are able to offer seamless and comprehensive solutions incorporating complementary aspects from all three key technology fields.

With an appropriate technical education, an element of entrepreneurial spirit and many years of design and consultancy expertise, our sales engineers can rapidly comprehend system requirements and provide you the customer with a solution that goes way beyond a simple understanding of our product datasheets. We take active involvement in the design cycle, defining and re-defining your specifications, and leading in many cases to highly specific, customized products and solutions. Helping you to effectively outsource your production line, we can even provide you with the necessary leading turnkey contract manufacturing services in our key competency fields.

AMS Technologies has been delivering solutions into a variety of high-tech markets, including renewable energies, medical, defence & aerospace, research & scientific and various other industrial segments. Our customer base consists of Europe's largest leading technology corporations, a network of universities and research institutes as well as the most promising start-ups.

We thrive by working in a 'customer first' environment. Our pan-European customers are serviced from a network of local offices in Germany, the UK, France, Italy, Spain, Poland and Sweden, with a focused operations and logistics centre located in Munich, Germany.

Our commitment: Identifying the best solution for your project enabling you to become your customers' first choice!

Your AMS Technologies team

Optical Adhesives

- Adhesives for Optical Path Link-up
- Adhesives for Array Assemblies
- High Precision Adhesives
- High/Low Refractive Index Adhesives
- Sealant for Optical Parts
- Optical Waveguide Formation Resin

Dispensing Solutions

- Hand-Held Valve Systems
- Manual Syringe
- Powered Syringe
- Dispensing Systems
- Material Reservoirs & Tanks

Optical Adhesives for glass, metal, ceramics and plastics

**Gluing is an essential technological process in many industrial technologies. The state-of-the-art adhesives are especially designed to meet the wide range of applications, while highly specialized.
They are simplifying bonding processes, guaranteeing high processing speed combined with high reliability.**

They are used for bonding of optical components where the adhesive is index matched to the components which has to be glued together. Special glues are developed to fix fiber in v-grooves. The refractive index is precisely controlled and can vary from low to high realizing a perfect optical match of materials.

Another group of adhesives is designed for sealing of optical components. To improve long-term reliability in mechanical protection and moisture prevention, optical devices are housed in protective cases of metal, plastic, etc. The reliability, especially in moisture resistance, of optical parts is greatly influenced by the characteristics of the sealant used for the openings and case junctions of the protective cases in the devices.
Curing conditions can be different, using either heat or UV light to reach the maximum on bonding power.

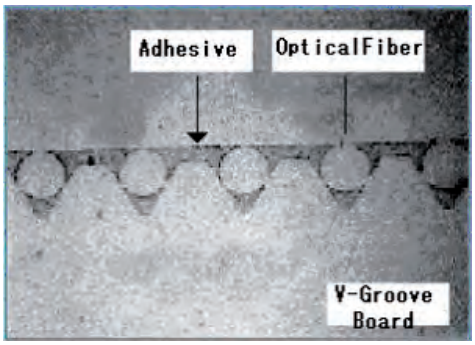
All adhesives shown in this brochure provide

- fast cure
- strong bonds to glass, metal, ceramics and plastics
- low shrinkage
- low stress

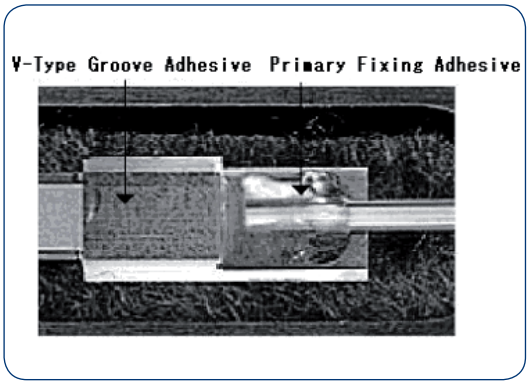
AMS Technologies is distributing the products of two optical adhesives suppliers NORLAND and NTT-AT, covering with their portfolio most of the applications.

NTT AT NORLAND PRODUCTS INC.

Usage Examples:



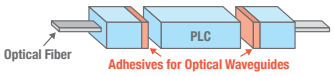
Cross-section view of V-type groove



Adhesive used for Array Assembly

NTT-AT Optical Adhesives LineUp

Adhesives for Optical Waveguides



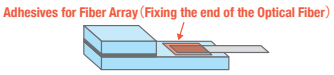
Model [Main ingredient]	Curing conditions (UV)		Refractive index (after hardening) @589nm	Viscosity (mPa·s)	Tg (°C)	Optical transmittance (%) @1.3μm	Bond strength (kgf/cm²)	Special features
	Irradiation level※1	Time (min)						
Adjustable RI Series (High-Tg type) [Epoxy]	30	10	1.458 - 1.567	250 - 2000	140 - 150	89 - 90	120 - 180	Refractive index can be adjusted in accordance with the customer's specification, High-Tg
Adjustable RI Series (Low-Tg type) [Epoxy]	10	10	1.458 - 1.567	200 - 560	40 - 50	86 - 90	>200	Refractive index can be adjusted in accordance with the customer's specification, Low-Tg
GA700H (High-Tg type) [Epoxy]	30	10	1.46	280	145	91	>247	Refractive index adjusted to match silica glass (at 1.55μm), High-Tg
GA700L (Low-Tg type) [Epoxy]	10	5	1.46	250	46	94	>154	Refractive index adjusted to match silica glass (at 1.55μm), Low-Tg
AT6001 [Acrylate]	10	5	1.51	470	0	91	99	Complies with Telecordia Standards (High Temperature/High Humidity), High Elasticity
AT8224 [Acrylate]	10	5	1.51	145	115	89	>209	Complies with Telecordia Standards (High Temperature/High Humidity), High-Tg

Tg: Glass transition temperature

Adhesives for Fiber Array (Fixing Optical Fiber and the V-groove)

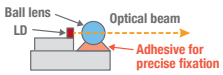
Model [Main ingredient]	Curing conditions (UV)		Refractive index (after hardening) @589nm	Viscosity (mPa·s)	Tg (°C)	Hardness (Shore D)	Bond strength (kgf/cm²)	Special features
	Irradiation level※1	Time (min)						
AT3925M [Epoxy]	100	10	1.52	200	219	88	>99	Mechanical polishing is available, Ultra-Hard, Heat-Resistant Adhesive
AT9390 [Epoxy]	30	10	1.49	600	131	81	>194	Mechanical polishing is available, Good Transparency
AT9968 [Epoxy]	100	10	1.51	70	181	85	>143	Mechanical polishing is available, Low Viscosity
AT3727E [Epoxy]	10	10	1.57	400	107	83	>147	Mechanical polishing is available, Humidity-Resistant, High-Tg
AT3728E [Epoxy]	10	10	1.57	400	55	20	>232	Mechanical polishing is available, Humidity-Resistant, Low-Tg

Adhesives for Fiber Array (Fixing the end of the Optical Fiber)



Model [Main ingredient]	Curing conditions (UV)		Viscosity (mPa·s)	Tg (°C)	Hardness (Shore D)	Bond strength (kgf/cm²)	Special features
	Irradiation level※1	Time(min)					
AT9575M [Epoxy]	100	10	paste	42	35	>221	High Durability, Nonfluxional
AT8105 [Acrylate]	10	5	paste	103	78	>226	

Adhesive for Precise Fixation



Model [Main ingredient]	Curing conditions (UV)		Shrinkage during curing (%)	Viscosity (mPa·s)	Tg (°C)	Thermal expansion coefficient (10^{-5}/°C)	Bond strength (kgf/cm²)	Special features
	Irradiation level※1	Time(min)						
AT4291A [Epoxy]	100	10	2	25,000	206	2	>116	Low Shrinkage Rate, Low Expansion Coefficient
AT9290F [Epoxy]	100	10	1	45,000	140	3	>200	Low Shrinkage Rate, Low Expansion Coefficient, Large Curing Depth
AT3862P [Epoxy]	100	2	0.5	180,000	195	2	>210	Low Shrinkage Rate

※1: [mW/cm²] ※2: [CC·cm/cmHg·cm²·s]@75°C 90% ※3: Shear adhesion strength of SUS / SUS (All other cases are glass / glass)

Data in thie catalog is the measured values, not guaranteed values.

amsTECHNOLOGIES
where technologies meet solutions

NTT-AT Optical Adhesives LineUp

High RI Resins

Model [Main ingredient]	Curing conditions (UV)		Refractive index (after hardening) @589nm	Viscosity (mPa·s)	Tg (°C)	Hardness (Shore D)	Bond strength (kgf/cm²)
	Irradiation level※1	Time (min)					
#18165 [Acrylate]	10	5	1.68	9	113	67	>48
#18166 [Acrylate]	10	5	1.66	900	161	80	>51
#6205 [Acrylate]	100	5	1.72	20	68	70	35
E3754 [Epoxy]	100	5	1.60	1,200	73	76	>280
#7200 [Epoxy]	100	10	1.63	11,000	63	83	55

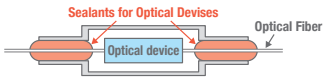
Low RI Resins

Model [Main ingredient]	Curing conditions (UV)		Refractive index (after hardening) @589nm	Viscosity (mPa·s)	Tg (°C)	Hardness (Shore D)	Bond strength (kgf/cm²)
	Irradiation level※1	Time (min)					
#18114 [Acrylate]	10	5	1.40	25	94	72	26
E3810 [Epoxy]	10	10	1.44	100	103	78	>61

Epoxy Resins for Fabricating Optical Waveguide

Model		Refractive index (after hardening) @830nm	Viscosity (mPa·s)	Tg (°C)	Δn (@830nm)
Core / Cladding set	Core	1.53 ±0.005	2,200	222	1.3%
	Cladding	1.51 ±0.005	2,900	200	

Sealants for Optical Devises



Model	Curing conditions (UV)	Pot life (min)	Water vapor transmission Rate※2	Hardness (Shore D)	Bond strength※3 (kgf/cm²)	Ratio of mixing (Weight A/B)	Main component	Conditions before hardening	Special features
S3903	RT 24hr or 80°C 1hr	20	5×10^{-8}	25	36	1 : 2	A: Amine Hardener B: Modified Epoxy Resin	A: Transparent paste B: White paste	High Flexibility
S3903-5		30	5×10^{-8}	28	62	10 : 28		A: Transparent paste B: Black paste	High Flexibility, High Viscosity
OS-39		60	7×10^{-8}	26	58	10 : 23		A: Transparent paste B: Black paste	
14SI		40	0.8×10^{-8}	76	>200	11 : 2	A: Epoxy Resin B: Amine Hardener	A: White paste B: Yellow transparent fluid	High Moisture Proof, High Bonding Strength
14SI-3		20	0.3×10^{-8}	84	143	21 : 2		A: White paste B: Yellow transparent fluid	High Moisture Proof, High Bonding Strength
OS5958		120	1.6×10^{-8} [85°C 85%]	47	131	10 : 3		A: White paste B: Yellow transparent fluid	High Moisture Proof Long Pot Life
OS5962		120	0.7×10^{-8} [85°C 85%]	66	146	21 : 3		A: White paste B: Yellow transparent fluid	High Moisture Proof, High Viscosity, Long Pot Life
OS-14		30	0.8×10^{-8}	61	>200	9 : 1		A: White paste B: Yellow transparent fluid	High Moisture Proof, High Viscosity, High Bonding Strength
OS-48	RT 24hr or 100°C 1hr	180	1×10^{-8}	66 (Shore A)	11	1 : 1	A/B: Butylene Resin	A: White paste B: Black paste	Long Pot Life

Norland Index Matching Liquids

Adhesive type	Article	Description	Cure	Viscosity at 25°C	Refractive Index	Modulus PSI	Tensile PSI	Elongation at failure	Shore D Hardness
UV Adhesives	NOA 60	General purpose adhesive for bonding doublets, prisms or mounting	UV	300 CPS	1.56	135	2,8	35%	81
UV Adhesives	NOA 61	Preferred adhesive for military optics. Meets MIL-A-3920. Used for optics	UV	300 CPS	1.56	150	3	38%	85
UV Adhesives	NOA 63	Cures well in thick sections. Use as fillet bond to hold lenses in place or for	UV	2,500 CPS	1.56	240	5	6%	90
UV Adhesives	NOA 65	Flexible adhesive suitable for low strain applications or for cold blocking of lenses.	UV	1,000 CPS	1.52	20	1,5	80%	50
UV Adhesives	NOA 68	Flexible adhesive for glass or plastics such as polycarbonate, CAB or	UV	5,000 CPS	1.54	20	2,5	80%	60
UV Adhesives	NOA 68T	Screen printable flexible adhesive for glass and plastic such as	UV	22,000 CPS	1.54	N/A	N/A	N/A	50
UV Adhesives	NOA 71	Provides a strong bond to glass surfaces and has excellent clarity for light	UV	200 CPS	1.56	55	1,3	43%	86
UV/VIS Adhesives	NOA 72	Low viscosity adhesive for bonding glass or plastics such as polycarbonate,	UV/ VIS	155 CPS	1.56	2,4	500	34%	75
UV Adhesives	NOA 73	Flexible adhesive with low viscosity for bonding delicate parts.	UV	140 CPS	1.56	1,6	200	16%	60
UV Adhesives	NOA 74	Low viscosity adhesive for bonding CAB, other plastics and glass	UV	80-95 cps	1.52	2900	217	10%	30
UV/VIS Adhesives	NOA 75	Low viscosity adhesive used for bonding polarized and polyester film, nylon,	UV/ VIS	80-95 cps	1.52	2610	164	7%	25
UV/VIS Adhesives	NOA 76	High viscosity adhesive for bonding glass to plastic. Cures with UV or visible	UV/ VIS	4,500 CPS	1.51	970	450	47%	60
UV/VIS Adhesives	NOA 78	High viscosity adhesive for bonding plastic to plastic. Cures with UV or visible	UV/ VIS	9,000 CPS	1.50	1140	649	57%	55
UV Adhesives	NOA 81	Fast curing adhesive for tacking or bonding. Excellent adhesion to glass	UV	300 CPS	1.56	200	3	25%	90
UV/Heat Adhesives	NOA 83H	Fast curing adhesive that will cure with UV or heat for tacking or bonding UV	UV/ HEAT	250 CPS	1.56	160	3,5	30%	85
UV/VIS Adhesives	NOA 84	Low refractive index, very low viscosity adhesive for bonding or coating glass	UV/ VIS	55 CPS	1.46	1,14	649	57%	55
UV Adhesives	NOA 85	Low refractive index, higher viscosity adhesive for bonding glass and plastic	UV	200 CPS	1.46	9,34	1,5	111%	40
UV/VIS Adhesives	NOA 86	Low viscosity adhesive that meets Bellcore specification of 85C/85RH for bonding	UV/VIS	200-300 CPS	1.55	360,4	7,834	2.8%	75
UV/VIS Adhesives / Heat	NOA 86H	Low viscosity adhesive that meets Bellcore specification of 85C/85RH for bonding	UV/VIS and or heat	200-300 CPS	1.55	360,4	7,834	2.8%	75
UV/VIS Adhesives	NOA 87	High viscosity adhesive that meets Bellcore specification of 85C/85RH for bonding	UV/VIS	900-1500 CPS	1.52	209,7	4,88	13%	50
UV Adhesives	NOA 88	Low outgassing adhesive for aerospace or electronic applications. Excellent	UV	250 CPS	1.56	112	1,9	43%	90
UV Adhesives	NOA 89	Low viscosity adhesive for spin coating and bonding delicate parts	UV	20 CPS	1.51	N/A	N/A	N/A	40
UV Adhesives	NOA 13685	Low viscosity adhesive with a refractive index of 1.3685 for bonding glass or plastic.	UV	15-25 CPS	1.3685	N/A	N/A	N/A	N/A
UV Adhesives	NOA 1375	Low viscosity adhesive with a refractive index of 1.375 for bonding glass or plastic.	UV	45-60 CPS	1.375	N/A	N/A	N/A	N/A
UV Adhesives	NOA 138	Low viscosity adhesive with a refractive index of 1.38 for bonding glass or plastic.	UV	45-60 CPS	1.38	N/A	N/A	N/A	N/A
UV Adhesives	NOA 142	Low viscosity adhesive with a refractive index of 1.42 for bonding glass.	UV	20-40 CPS	1.42	N/A	N/A	N/A	N/A
UV Adhesives	NOA 144	Adhesive with a refractive index of 1.44 for bonding glass.	UV	45-60 CPS	1.44	N/A	N/A	N/A	N/A
UV Adhesives	NOA 148	Adhesive with a refractive index of 1.48 for bonding glass.	UV	1500-2000 CPS	1.48	N/A	N/A	N/A	N/A
UV Adhesives	NOA 1625	Low viscosity adhesive with a refractive index of 1.625 for bonding glass.	UV	60-80 CPS	1.625	N/A	N/A	N/A	N/A

Norland Index Matching Liquids

Adhesive type	Article	Description	Cure	Viscosity at 25°C	Refractive Index	Modulus PSI	Tensile PSI	Elongation at failure	Shore D Hardness
UV Adhesives	NOA 164	Low viscosity adhesive with a refractive index of 1.64 for bonding glass.	UV	60-80 CPS	1.64	N/A	N/A	N/A	N/A
UV Adhesives	NBA 107	UV curing adhesive for cold blocking and temporary bonding of lenses. Can be	UV	350 cps	1.51	800	78	5%	15
UV Adhesives	NBA 108	UV curing adhesive for cold blocking and temporary bonding of lenses. Can be	UV	550 CPS	1.51	710	101	18%	25
UV Adhesives	UVS 91	Screenable paste for bonding and sealing perimeters of liquid Paste	UV	Thixotropic	N/A	45	2,9	58%	55
Adhesives for Optical Path Link-up	Refractive Index Adjusting Material (High Tg) [Epoxy]	Modulate the refractive index to specific values for the best level of transparency.	30mW/cm2 10min	200~560 cP	1.46~1.57	120~>180 (kgf/cm2)	–	–	–
Adhesives for Optical Path Link-up	Refractive Index Adjusting Material (Low Tg) [Epoxy]	Modulate the refractive index to specific values for the best level of transparency.	10mW/cm2 10min	200~560 cP	1.45~1.57	>180 (kgf/cm2)	–	–	–
Adhesives for Optical Path Link-up	GA700H (High Tg) [Epoxy]	At λ1.55um, adjusted to match silica glass	30mW/cm2 10min	252 cP	1.46	94 (kgf/cm2)	–	–	–
Adhesives for Optical Path Link-up	GA700L (Low Tg) [Epoxy]	At λ1.55um, adjusted to match silica glass	10mW/cm2 5min	250 cP	1.46	>200 (kgf/cm2)	–	–	–
Adhesives for Optical Path Link-up	AT6001 [Acrylate]	Telecordia standard (strong under high temperature and humidity, flexible)	10mW/cm2 10min	440 cP	1.51	>150 (kgf/cm2)	–	–	–
Adhesives for Optical Path Link-up	AT8224 [Acrylate]	Telecordia standard (strong under high temperature and humidity, High Tg)	10mW/cm2 5min	180 cP	1.51	>122 (kgf/cm2)	–	–	–
Adhesives for Optical Path Link-up	AT6390 [Acrylate]	High endurance material, Tg > 100°C, High viscosity	10mW/cm2 5min	840 cP	1.51	156 (kgf/cm2)	–	–	–
Array Assembly Adhesive	AT3925M [Epoxy]	Highly heat resistant. Can grind mechanically	100mW/cm210min	284 CPS	1.52	>181 (kgf/cm2)	–	–	–
Array Assembly Adhesive	AT9390 [Epoxy]	Can grind mechanically.	30mW/cm210min	600 CPS	1.49	>181 (kgf/cm2)	–	–	–
Array Assembly Adhesive	AT9968 [Epoxy]	Low viscosity. Can grind mechanically.	100mW/cm210min	70 CPS	1.51	>202 (kgf/cm2)	–	–	–
Array Assembly Adhesive	AT7195M [Epoxy]	Can grind mechanically. High Tg.	100mW/cm210min	770 CPS	1.57	>129 (kgf/cm2)	–	–	–
Array Assembly Adhesive	AT9575M [Epoxy]	High durability. Non-liquidity.	100mW/cm210min	>20,000 (Paste)	–	>146 (kgf/cm2)	–	–	–
Array Assembly Adhesive	AT8105 [Acrylate]	High durability. Non-liquidity. High Tg.	10mW/cm25min	>20,000 (Paste)	–	>200 (kgf/cm2)	–	–	–
High Precision Adhesives	AT4291A [Epoxy]	Small curing shrinkage rate. Small thermal expansion coefficient rate.	50mW/cm2 10min	>20,000	–	>116 (kgf/cm2)	–	–	–
High Precision Adhesives	AT9290F [Epoxy]	Small curing shrinkage rate. Small thermal expansion coefficient rateLarge curing depth	50mW/cm2 10min	>20,000	–	>200 (kgf/cm2)	–	–	–
Sealant for Optical Parts	S3903 A: Amine, B: Denatured Epoxy	Flexible	A: Transparent Paste, B: White Paste	–	–	50 (kgf/cm2)	–	–	36
Sealant for Optical Parts	S3903-5 A: Amine, B: Denatured Epoxy	Flexible High Viscosity	A: Transparent Paste, B: Black Paste	–	–	121 (kgf/cm2)	–	–	39
Sealant for Optical Parts	OS-39 A: Amine, B: Denatured Epoxy	Flexible High Viscosity	A: Transparent Paste, B: Black Paste	–	–	58 (kgf/cm2)	–	–	26
Sealant for Optical Parts	14SI A: Epoxy Resin, B: Amine	High moisture proof, High bonding strength	A: White Paste, B: Yellow Transparent fluid	–	–	200 (kgf/cm2)	–	–	58
Sealant for Optical Parts	14SI-3 A: Epoxy Resin, B: Amine	High moisture proof, High bonding strength, High viscosity	A: White Paste, B: Yellow Transparent fluid	–	–	200 (kgf/cm2)	–	–	82
Sealant for Optical Parts	OS14 A: Epoxy Resin, B: Amine	High moisture proof, High bonding strength, High viscosity	A: White Paste, B: Yellow Transparent fluid	–	–	200 (kgf/cm2)	–	–	61
Sealant for Optical Parts	OS-48 Polybutylene system resin	Long PotLife	A: White Paste, B: Yellow Transparent fluid	–	–	11 (kgf/cm2)	–	–	66
High refractive index resin	Radical system #18165	–	10mW/cm2 5min	–	–	–	–	–	–
High refractive index resin	Radical system #18166	–	10mW/cm2 5min	–	–	–	–	–	–
High refractive index resin	Radical system #6205	Easily crystallized under low temperature	100mW/cm2 5min	–	–	–	–	–	–
High refractive index resin	Cationic systems #E3754	–	100mW/cm2 5min	–	–	–	–	–	–
High refractive index resin	Cationic systems #7200	–	100mW/cm2 10min	–	–	–	–	–	–

Dispensing Units and Accessories for Fiber optics Patchcord production

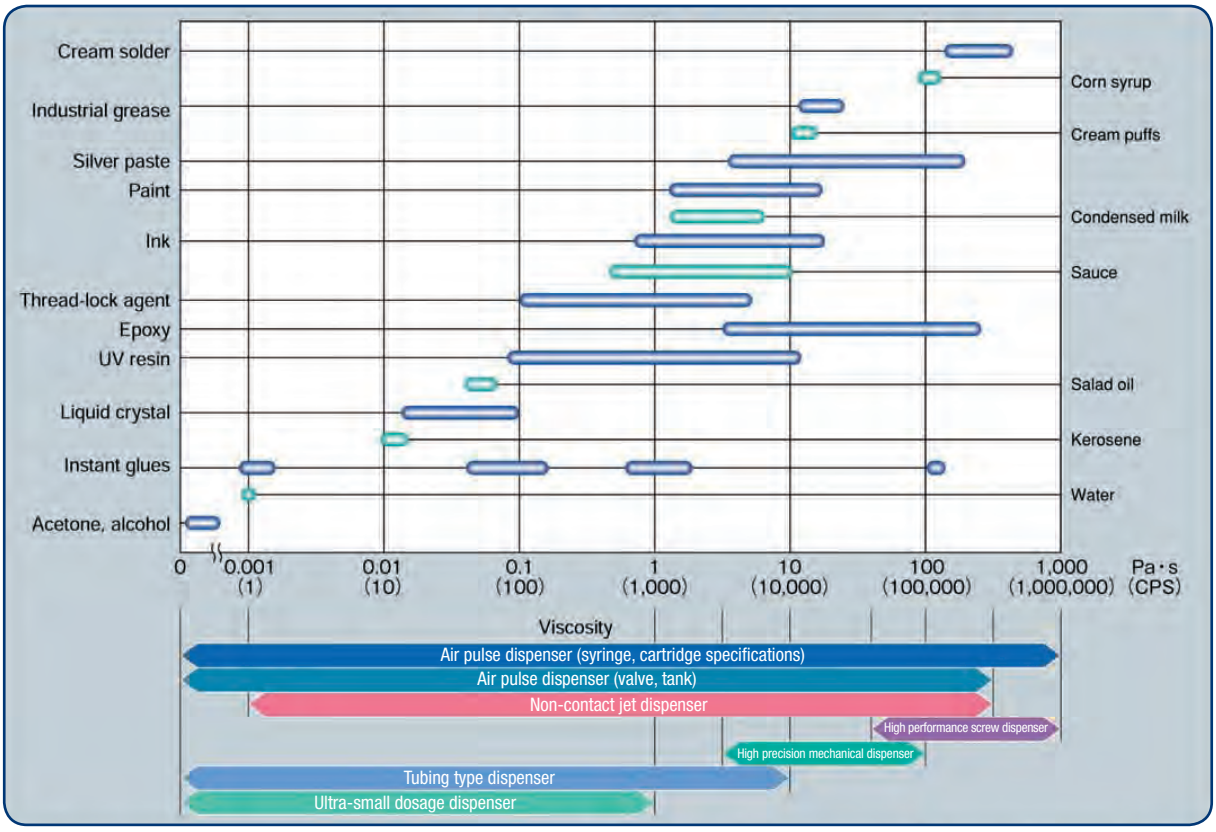
The dispensing systems from MUSASHI are used in numerous industrial processes, such as automotive, cable assembly, optical module manufacturing, electronics, solar cell manufacturing and medical technology. A large choice of consumables, like syringes, nozzles and adapter hoses cover all customer needs.

When handling liquid materials process parameters like stability, flow volume and the curing profile of the used materials are of paramount importance. Permanent monitoring and control of these parameters is essential to ensure stable dispensing during the process, even with self-curing materials.

High precision systems optimize the production flow, lower the costs and maximize throughput for electrical and electromechanical manufacturing sequences. When used in medical applications Musashi's solutions ensure absolute even dispensing of UV curing adhesives, silicone, cyanoacrylate adhesives and other liquid materials.

- Manual dispenser for Syringes
- Syringes & Syringe Holder
- Adapter Tube for Pneumatic dispenser
- Plunger & Needle for threaded syringe
- Pneumatic syringe dispenser

Fluid material viscosity table

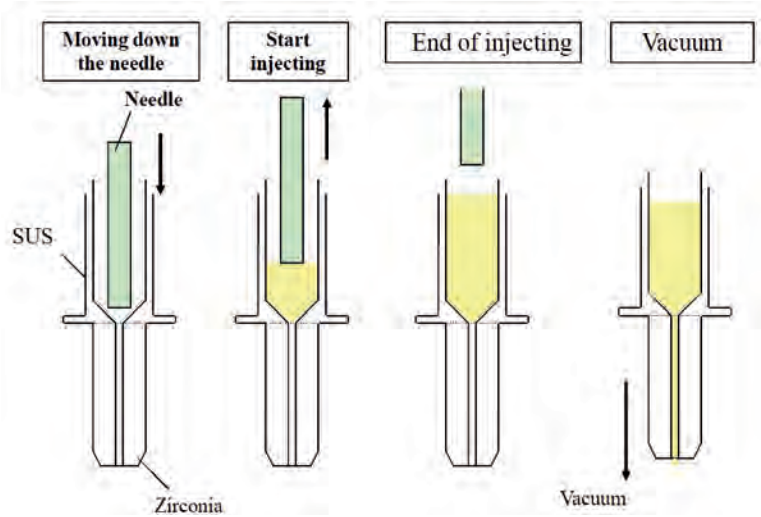


Adhesive Injection Systems for Ferrules

The Shotmaster is an automated solution for dispensing adhesives into ferrules of fiberoptic connectors.
The robot arm allows for precise positioning of the syringe needle in relation to the ferrule hence avoiding later failure of connectors due to glue misplacement. The integrated dispense system corrects for the glue changing its viscosity over time hence making sure always same volume is injected in the ferrule. The Shotmaser is the ideal solution for todays high volume high quality fiber optic connector assembly lines.
This robot is equipped with a high precision pneumatic dispenser that accurately corrects for fluctuations in the dose volume caused by changes in viscosity, such as occur with twopart resin material.

- Streamline the injection operation
- Compatible with large variety of ferrule
- Improve workability
- Stabilizing adhesive spread
- Temperature control by peltiert device
- Stabilizing of quality

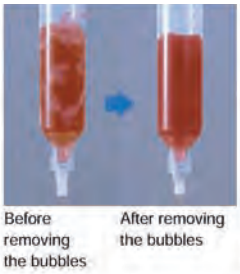
Injection step



ML-808FX: High precision dispenser flexible with viscosity change
Stable dispensing of two-liquid type cure adhesive With the <auto increment function>, dispensing set conditions automatically switches step-by-step. With the <auto slope function>, the channel is set automatically just by inputting the start and end dispensing conditions.
Variable line width at a constant drawing speed.
Ideal for automation lines and centralized control from host computer because the RS-232C communication function is provided.

Centrifugal bubble eliminator for syringes

This is bubble eliminator for removing bubbles that are generated when filling material into syringes by using centrifugal force. Simple operation: Put a liquired-filled syringes in the machine and press the switch. Two models are avalable according to the syringe size. Clean and simple bubble removal for various fluids such as epoxy resin and grease.



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