

PRODUCT RANGE

Silicone Resins for Coatings & Electrical Insulation

Solvent-borne, solvent-free, solid and waterborne grades for heat-resistant coatings, Class H insulation, mica laminates and powder coatings

www.silfluosilicone.com

Silfluo

INTRODUCTION

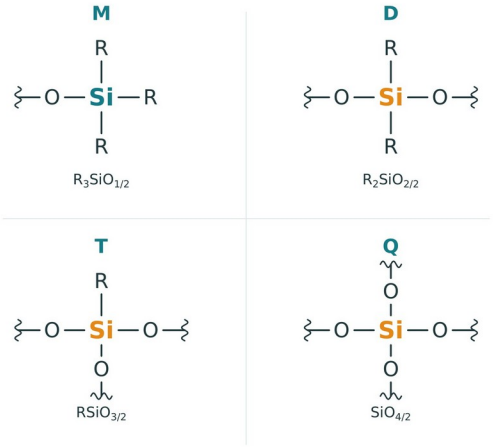
Silicone resins from Silfluo

Silfluo supplies silicone resins as binders and modifiers for heat-resistant coatings, electrical insulation, mica and glass fiber laminates, powder coatings and waterborne systems.

Silicone resins are three-dimensional polysiloxane networks built mainly from trifunctional (T) and tetrafunctional (Q) siloxane units. Methyl groups give hardness and water repellency; phenyl groups add thermal stability, flexibility and compatibility with organic resins.

The cured Si–O–Si network keeps its properties at temperatures where organic binders break down, and it resists weathering, moisture and electrical stress. Copolymers with epoxy, acrylic, alkyd and polyester resins combine these properties with the cure and adhesion of the organic resin.

Grades are supplied as solutions at 50–80% solids, as solvent-free alkoxy-functional resins, as solid flakes and as non-ionic emulsions.



M, D, T and Q units (R = organic group)

500 °C
for 3 h with leafing aluminum (4:1), LR-H and LR-S grades

50–80%
solids of the solvent-borne grades

≥55 kV/mm
breakdown strength of LR-163

4 forms
solution, solvent-free, solid and emulsion

Product families

01	**Methyl Silicone Resins**	Hard, highly crosslinked binders for mica boards, glass fiber laminates and high-temperature adhesives. On sintering they convert to a ceramic residue that keeps adhesion.	p. 4
02	**Methyl Phenyl Silicone Resins**	Solvent-borne methyl phenyl resins at 50% solids, used as binders for Class H electrical insulation, mica insulation and heat-resistant coatings.	p. 4
03	**Heat-Resistant and Air-Drying Resins**	High-solids and ambient-curing methyl phenyl resins for heat-resistant paints. Films of resin and leafing aluminum (4:1) withstand 500 °C for 3 h without peeling, cracking or blistering.	p. 5
04	**Modified Silicone Resins**	Copolymers of silicone with epoxy, acrylic, alkyd and polyester resins. They combine the adhesion, gloss and cure of the organic resin with the heat and weather resistance of silicone.	p. 7
05	**Solvent-Free and Solid Resins**	Low-viscosity alkoxy-functional resins and solid resins for high-solids, powder and coil coatings, and for adding silicone to acrylic, polyester and epoxy binders.	p. 8
06	**Silicone Resin Emulsions**	Non-ionic, water-dilutable emulsions for waterborne heat-resistant coatings and for water-based polyurethane mold release.	p. 9

SELECTION GUIDE

Product overview

Grade	Type and form	Electrical insulation	Mica & laminates	Heat-resistant coatings	Appliance coatings	Resin modification	Powder & coil coatings
LR-021	Methyl, solution 50%		•				
LR-152	Methyl, solution 50%		•				
LR-608	Methyl, solution 80%		•				
LR-160	Methyl phenyl, solution 50%	•		•			
LR-162	Methyl phenyl, solution 50%	•		•			
LR-163	Methyl phenyl, flexible, 50%	•	•	•			
LR-030	Silicone resin, solution 50%	•	•				
LR-H160	Methyl phenyl, solution 60%			•		•	
LR-H167	Methyl phenyl, solution 70%			•		•	
LR-H168	Methyl phenyl, solution 80%			•		•	
LR-S164	Air-drying, solution 50%			•		•	
LR-H161	Air-drying, solution 50%			•		•	
LR-S161	Air-drying, solution 50%			•			
LR-M123	Epoxy-modified, 50%	•		•			
LR-M124	Acrylic-modified, 50%	•		•			
LR-M125	Alkyd-modified, 50%	•		•			
LR-M161	Polyester-modified, 50%	•		•	•		
LR-M163	Acrylic-modified, 50%			•			
LR-M164	Epoxy-modified, 50%			•	•		
LR-131	Alkoxy resin, solvent-free			•	•		
LR-037	Methyl phenyl alkoxy, solvent-free					•	
LR-038	Methyl phenyl, solvent-free	•	•	•			
LR-TMP10	Silanol intermediate, solid			•		•	•
LR-240/241/242	Phenyl methyl, solid			•		•	•
LR-E168	Methyl phenyl emulsion, 50%			•	•		
LR-E169	Methyl emulsion, 50%			•	•		
LR-EP167	Epoxy-modified emulsion, 50%			•			
LR-E212	MQ emulsion, 60% (PU mold release)						

• main application in the grade's TDS. Solids in % by weight.

PRODUCT RANGE

01 Methyl Silicone Resins

Hard, highly crosslinked binders for mica boards, glass fiber laminates and high-temperature adhesives. On sintering they convert to a ceramic residue that keeps adhesion.



LR-021

Methyl silicone resin, solvent-borne

Silfluo LR-021 is a solvent-based methyl silicone resin at 50±1% solids, viscosity 11–20 s (Flow Cup No. 4, 25 °C), that cures to a hard, crosslinked network. With inorganic fillers it resists high temperatures, and on sintering it converts to Si–O or Si–C bonds and leaves a ceramic residue that keeps adhesion. Main uses are binders for mica and glass fiber boards, refractory adhesives, high-temperature bonding agents and sealants.

Solids
50±1%

Viscosity, Flow Cup No. 4, 25 °C
11–20 s

Appearance
Colorless to light yellow, semitransparent

LR-152

Methyl silicone resin

COMPARABLE TO*

Wacker Silres K · Momentive TSR127B

Silfluo LR-152 is a methyl silicone resin solution at 50±1% solid content that cures to a rigid, brittle film with heat resistance, electrical insulation and water repellency. Gel time at 200 °C is 10–30 minutes, and mass loss and outgassing during high-temperature cure are low. Main uses are bonding adhesives for rigid mica boards and glass fiber cloth laminates and wear-resistant gloss treatment of marble and industrial floor tiles.

Solids
50±1%

Viscosity, Flow Cup No. 4, 25 °C
11–20 s

Gel time at 200 °C
10–30 min

LR-608

High-solids methyl silicone resin

Silfluo LR-608 is a high-solids methyl silicone resin made from multifunctional organosilanes, supplied at 80±2% solids in a toluene-containing solvent, viscosity 400–1,200 s (Flow Cup No. 4, 25 °C). It cures to a hard, abrasion-resistant, insulating film, and on sintering converts to Si–O or Si–C bonds, leaving a ceramic residue that keeps adhesion. Main uses are mica and glass fiber boards, refractory adhesives, sealants and metal coatings.

Solids
80±2%

Viscosity, Flow Cup No. 4, 25 °C
400–1200 s

02 Methyl Phenyl Silicone Resins

Solvent-borne methyl phenyl resins at 50% solids, used as binders for Class H electrical insulation, mica insulation and heat-resistant coatings.



LR-160

Methyl phenyl silicone resin

COMPARABLE TO*

Wacker SY409 · Dow DC806A · Momentive TSR144, 6209

Silfluo LR-160 is a methyl phenyl silicone resin supplied at 50±1% solids in a toluene-containing solvent, viscosity 20–50 s (Flow Cup No. 4, 25 °C). The cured resin gives heat resistance, moisture resistance and electrical insulation, with higher temperature resistance than LR-162. Main uses are Class H motors, transformer coils, impregnation of Class H glass fiber covered wire, transistor encapsulation and heat-resistant coatings.

Solids
50±1%

Viscosity, Flow Cup No. 4, 25 °C
20–50 s

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02 Methyl Phenyl Silicone Resins (continued)

LR-162

Methyl phenyl silicone resin

COMPARABLE TO*

Dow DC840, DC431HS · Momentive TSR117

Silfluo LR-162 is a methyl phenyl silicone resin supplied at 50±1% solids in a toluene-containing solvent, with a viscosity of 20–50 s (Flow Cup No. 4, 25 °C). The cured resin provides heat resistance, moisture resistance and electrical insulation, and it dilutes with ketones, esters, toluene or xylene. Used for Class H motors, electrical appliances and transformer coils, transistor encapsulation and heat-resistant coatings.

Solids
50±1%

Viscosity, Flow Cup No. 4, 25 °C
20–50 s

LR-163

Flexible methyl phenyl silicone resin

COMPARABLE TO*

Dow DC808 · Momentive TSR116

Silfluo LR-163 is a flexible methyl phenyl silicone resin supplied at 50±1% solids in a toluene-containing solvent, with a viscosity of 15–50 s (Flow Cup No. 4, 25 °C). It cures in ≤2 h at 200 °C, withstands ≥300 h thermal aging at 200 °C and gives breakdown strength of ≥55 kV/mm, or ≥30 kV/mm at 200 °C. Main uses are flexible mica tapes and sheets, varnished glass cloth, motor coil impregnation, glass sleeving and conformal coatings.

Solids
50±1%

Viscosity, Flow Cup No. 4, 25 °C
15–50 s

Cure, 200 °C on copper
≤2 h

Thermal aging at 200 °C
≥300 h

Breakdown strength, 20 / 200 °C
≥55 / ≥30 kV/mm

LR-030

Silicone resin for mica insulation

Silfluo LR-030 is a silicone resin solution supplied at 50±1% solids in a toluene-containing solvent, with a viscosity of 12–30 s (Flow Cup No. 4, 25 °C). The cured resin provides high-temperature resistance, electrical insulation and moisture resistance, and it dilutes with ketones, esters, toluene or xylene. Used as a binder for rigid molded mica, mica paper and glass-backed mica foil and in Class H motor insulation.

Solids
50±1%

Viscosity, Flow Cup No. 4, 25 °C
12–30 s

03 Heat-Resistant and Air-Drying Resins

High-solids and ambient-curing methyl phenyl resins for heat-resistant paints. Films of resin and leafing aluminum (4:1) withstand 500 °C for 3 h without peeling, cracking or blistering.



LR-H160

Heat-resistant silicone resin, 60% solids

COMPARABLE TO*

Wacker REN60 (60% solids)

Silfluo LR-H160 is a heat-resistant methyl phenyl silicone resin made from methyl, phenyl and functional silane monomers, supplied at 60±1% solids in a toluene-containing solvent, viscosity ≥500 mPa·s. It is surface dry in ≤2 h, fully cured in 2 h at 180 °C, and with leafing aluminum at 4:1 withstands 500 °C for 3 h. Main uses are coatings for exhaust pipes, precipitators and stoves and modifying alkyd, acrylic, polyester and epoxy resins.

Solids
60±1%

Viscosity, 25 °C
≥500 mPa·s

Cure
surface dry ≤2 h; 2 h at 180 °C

Heat resistance, Al 4:1
500 °C, 3 h

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03 Heat-Resistant and Air-Drying Resins (continued)

LR-H167

Heat-resistant silicone resin, 70% solids

Silfluo LR-H167 is a heat-resistant methyl phenyl silicone resin made from methyl, phenyl and functional silane monomers, supplied at 70±1% solids in a toluene-containing solvent, viscosity ≥600 mPa·s. It is surface dry in ≤2 h, fully cured in 2 h at 180 °C, and with leafing aluminum at 4:1 withstands 500 °C for 3 h. Main uses are coatings for exhaust pipes, precipitators and stoves and modifying alkyd, acrylic, polyester and epoxy resins.

Solids
70±1%
Viscosity, 25 °C
≥600 mPa·s
Cure
surface dry ≤2 h; 2 h at 180 °C
Heat resistance, Al 4:1
500 °C, 3 h

LR-H168

Heat-resistant silicone resin, 80% solids

COMPARABLE TO*

Wacker REN60

Silfluo LR-H168 is a heat-resistant methyl phenyl silicone resin made from methyl, phenyl and specific silane monomers, supplied at 80±1% solids in a toluene-containing solvent, viscosity ≥2,000 mPa·s. It is surface dry in ≤2 h, fully cured in 2 h at 180 °C, and with leafing aluminum at 4:1 withstands 500 °C for 3 h. Main uses are coatings for exhaust pipes, precipitators and stoves and modifying alkyd, acrylic, polyester and epoxy resins.

Solids
80±1%
Viscosity, 25 °C
≥2000 mPa·s
Cure
surface dry ≤2 h; 2 h at 180 °C
Heat resistance, Al 4:1
500 °C, 3 h

LR-S164

Air-drying silicone resin

Silfluo LR-S164 is an air-drying silicone resin made from phenyl, methyl and specialty silane monomers, supplied at 50±1% solids with a viscosity of 15–50 s (Ford Cup No. 4, 25 °C). It is surface dry in ≤2 h or cured in 1 h at 180 °C, and with leafing aluminum (4:1) it passes 3 h at 500 °C without peeling, cracking or blistering. Used in heat-resistant coatings for large equipment, alone or blended with alkyd, acrylic, polyester or epoxy resins.

Solids
50±1%
Viscosity, Ford Cup No. 4, 25 °C
15–50 s
Cure
surface dry ≤2 h; 1 h at 180 °C
Heat resistance, Al 4:1
500 °C, 3 h

LR-H161

Heat-resistant air-drying silicone resin

Silfluo LR-H161 is a heat-resistant, air-drying silicone resin made from methyl- and phenyl-containing monomers and specialty silanes, supplied at 50±1% solids in a xylene-containing solvent. Viscosity is 15–40 s (Ford Cup No. 4, 25 °C), surface drying takes ≤2 h, and a 4:1 varnish/leafing aluminum coating passes 3 h at 500 °C without peeling or cracking. Used for exhaust pipe, precipitator and furnace paints and to modify organic resins.

Solids, 150 °C / 2 h
50±1%
Viscosity, Ford Cup No. 4, 25 °C
15–40 s
Cure
surface dry ≤2 h; ≤1 h at 180 °C
Heat resistance, Al 4:1
500 °C, 3 h

LR-S161

Ambient-curing methyl phenyl silicone resin

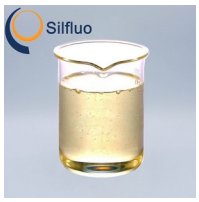
Silfluo LR-S161 is an ambient-curing methyl phenyl silicone resin made from methyl, phenyl and functional silane monomers, supplied as a 50% solids solution with a viscosity of 30–150 s (4# cup, 25 °C). It is surface dry in ≤2 h at room temperature or fully cured in 1 h at 180 °C; with leafing aluminum at 4:1 the coating withstands 500 °C for 3 h. Main uses are heat-resistant, anticorrosive coatings for large equipment and maintenance paints.

Solids
50±1%
Viscosity, 4# cup, 25 °C
30–150 s
Cure
surface dry ≤2 h; 1 h at 180 °C
Heat resistance, Al 4:1
500 °C, 3 h

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04 Modified Silicone Resins

Copolymers of silicone with epoxy, acrylic, alkyd and polyester resins. They combine the adhesion, gloss and cure of the organic resin with the heat and weather resistance of silicone.



LR-M123

Epoxy-modified silicone resin series (LR-M123-4, LR-M123-6)

COMPARABLE TO*

Momentive TSR194

Silfluo LR-M123 series are epoxy-modified silicone resins at 50±1% solids in a xylene-containing solvent, combining silicone heat and weather resistance with epoxy adhesion and chemical resistance. LR-M123-4 (epoxy value 0.06–0.16) favors corrosion resistance and LR-M123-6 (0.02–0.07) heat resistance; both cure at room temperature with polyisocyanates or in 1 h at 180 °C. Used in anticorrosion, insulating and weather-resistant coatings.

Solids
50±1%

Viscosity, 4# cup, 25 °C
30–80 s / 20–60 s

Epoxy value
0.06–0.16 / 0.02–0.07

Heat resistance, Al 4:1
400 °C, 3 h

LR-M124

Acrylic-modified silicone resin series (five grades)

Silfluo LR-M124 series are silicone-acrylic hybrid resins made by copolymerizing methyl and phenyl silanols with acrylic monomers, supplied at 50±1% solids in toluene/xylene in five grades from 20–60 s to over 120 s (Flow Cup No. 4). They combine acrylic gloss and adhesion with silicone heat resistance and cure at room temperature with polyisocyanates or in 1 h at 180 °C. Used in heat- and weather-resistant coatings and Class H varnishes.

Solids
50±1%

Viscosity, Flow Cup No. 4, 25 °C
20–60 s to >120 s

Cure
surface dry ≤2 h; 1 h at 180 °C

LR-M125

Alkyd-modified silicone resin

Silfluo LR-M125 is an alkyd-modified silicone resin made by copolymerizing methyl and phenyl silanols with alkyd resin, supplied at 50±1% solids, viscosity 25–65 s (Flow Cup No. 4, 25 °C). It cures at room temperature (surface dry ≤2 h, hard dry 24 h) or in 1 h at 180 °C, and with leafing aluminum at 4:1 withstands 400 °C for 4 h. Main uses are heat-resistant coatings for service up to 300 °C, weather-resistant paints and Class H varnishes.

Solids
50±1%

Viscosity, Flow Cup No. 4, 25 °C
25–65 s

Cure
hard dry 24 h; 1 h at 180 °C

Heat resistance, Al 4:1
400 °C, 4 h

LR-M161

Polyester-modified silicone resin

Silfluo LR-M161 is a polyester-modified silicone resin supplied at 50±1% solids in a toluene-containing solvent, with a viscosity of 20–90 s (Flow Cup No. 4, 25 °C). The film, dried in 0.5 h at 250 °C, gives heat resistance, weatherability, hardness, solvent resistance and electrical insulation. Main uses are heat-resistant coatings, Class H insulating varnishes and exterior finishes for household and kitchen appliances.

Solids
50±1%

Viscosity, Flow Cup No. 4, 25 °C
20–90 s

Drying
0.5 h at 250 °C

LR-M163

Acrylic-modified silicone resin

Silfluo LR-M163 is an acrylic-modified silicone resin made by reacting silicone resin, acrylic resin and functional silane intermediates, supplied at 50±1% solids with a viscosity of 20–80 s (Flow Cup No. 4, 25 °C). The film is hard and glossy with heat resistance up to 230 °C; it is surface dry in ≤2 h or cured in 1 h at 180 °C. Used as a binder for heat-resistant coatings, outdoor high-temperature paints and weather-resistant coatings.

Solids
50±1%

Viscosity, Flow Cup No. 4, 25 °C
20–80 s

Cure
surface dry ≤2 h; 1 h at 180 °C

Heat resistance, Al 4:1
400 °C, 3 h

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04 Modified Silicone Resins (continued)

LR-M164

Epoxy-modified silicone resin

Silfluo LR-M164 is an epoxy-modified silicone resin made from silicone intermediates and epoxy resins, supplied at 50±1% solids in a toluene-containing solvent. It combines silicone heat resistance with epoxy hardness and gloss, with a viscosity of 20–90 s (Flow Cup No. 4) and drying in 2 h at 150 °C. Main uses are heat-resistant anticorrosive coatings for pipelines, reactors and boilers, appliance coatings and aluminum profile finishes.

Solids
50±1%

Viscosity, Flow Cup No. 4, 25 °C
20–90 s

Drying
2 h at 150 °C

05 Solvent-Free and Solid Resins

Low-viscosity alkoxy-functional resins and solid resins for high-solids, powder and coil coatings, and for adding silicone to acrylic, polyester and epoxy binders.



LR-131

Solvent-free silicone resin, low molecular weight

COMPARABLE TO*

Wacker SILRES MSE 100

Silfluo LR-131 is a low-molecular-weight, solvent-free silicone resin made by mixed hydrolysis of alkoxysilanes, with about 30% alkoxy content, viscosity 20–200 mPa·s and a flash point of ≥65 °C. It cures at room temperature, releasing methanol, to hard films with low gloss loss and low smoke when heated. Main uses are high-solids heat-resistant coatings for exhausts and engine parts, oven and grill finishes and automotive ceramic coatings.

Viscosity, 25 °C
20–200 mPa·s

Alkoxy content
~30 wt%

Flash point
≥65 °C

LR-037

Reactive methyl phenyl resin, solvent-free

COMPARABLE TO*

Wacker IC232, IC368 · Dow DC3074

Silfluo LR-037 is a solvent-free, reactive methyl phenyl polysiloxane resin with alkoxy groups and a controlled molecular weight distribution, viscosity 80–500 mPa·s and ≤5% volatiles. Added at 30% to acrylic, polyester or epoxy resins, it can raise their continuous heat resistance to 300–350 °C and improve weather resistance. Used as a modifier for heat-resistant coatings and diluted only with hydroxyl-free solvents such as xylene.

Viscosity, 25 °C
80–500 mPa·s

Volatile matter
≤5%

LR-038

Methyl phenyl resin, solvent-free

Silfluo LR-038 is a solvent-free methyl phenyl polysiloxane resin with a viscosity of 80–500 mPa·s and ≤5% volatiles that releases methanol as it cures. The cured resin is hard, flexible and insulating, with high- and low-temperature resistance, water repellency, weatherability and adhesion; it cures at room temperature with a curing agent. Main uses are binders for heat-resistant coatings, laminates, impregnating varnishes and adhesives.

Viscosity, 25 °C
80–500 mPa·s

Volatile matter
≤5%

LR-TMP10

Solid silanol-functional methyl phenyl intermediate

COMPARABLE TO*

Dow DOWSIL™ RSN-6018 · Wacker SY300

Silfluo LR-TMP10 is a 100% active, solid methyl phenyl silicone resin intermediate with reactive silanol groups, a softening point of 90 °C and ≤3% volatiles. The silanol groups condense with hydroxyl groups of acrylic, polyester and epoxy resins, raising heat resistance, UV weatherability and chalking resistance. Main uses are powder coatings, heat-resistant industrial finishes, polysiloxane protective coatings and SMP coil coatings.

Volatile matter
≤3%

Softening point
90 °C

Solubility in toluene, 1:1
clear

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05 Solvent-Free and Solid Resins (continued)

LR-240/241/242

Solid phenyl methyl silicone resins

COMPARABLE TO*

LR-240: Wacker SILRES 604 · LR-241: Wacker SILRES 605

Silfluo LR-240 series (LR-240, LR-241 and LR-242) are solid phenyl methyl silicone resins, colorless to light yellow transparent solids with softening points of 60–100 °C and ≤2% volatiles. Blended or graft-copolymerized into acrylic, polyester or epoxy systems, they raise heat and weather resistance and reduce chalking and cracking. Main uses are powder coatings, heat-resistant industrial coatings (≥15% on solids) and polysiloxane coatings.

Volatile matter
≤2%

Softening point
60–100 °C

Solubility in toluene, 1:1
clear

06 Silicone Resin Emulsions

Non-ionic, water-dilutable emulsions for waterborne heat-resistant coatings and for water-based polyurethane mold release.



LR-E168

Methyl phenyl silicone resin emulsion

COMPARABLE TO*

Wacker Silres MP 50E, Silres REN 50

Silfluo LR-E168 is a non-ionic methyl phenyl silicone resin emulsion, a milky white, water-dilutable liquid at 50±2% solids, viscosity 13–30 s (Flow Cup No. 4, 25 °C). The phenyl content raises heat resistance to 350 °C in clear varnishes and 650–700 °C in pigmented coatings; it is used alone or blended with acrylic, polyester or epoxy resins. Main uses are coatings for boilers, heat pipelines, electric heaters, furnaces and ovens.

Solids, 150 °C / 2 h
50±2%

Viscosity, Flow Cup No. 4, 25 °C
13–30 s

LR-E169

Methyl silicone resin emulsion

COMPARABLE TO*

Wacker Silres MPF 52E

Silfluo LR-E169 is a non-ionic methyl silicone resin emulsion, a milky white, solvent-free and water-dilutable liquid at 50±2% solids with a viscosity of 15–40 s (Flow Cup No. 4, 25 °C). Heat resistance reaches 300 °C in clear varnishes and 500 °C in pigmented coatings; it air-dries for handling and reaches full properties when baked at 200–280 °C for 15–60 min. Used in coatings for boilers, heat pipelines, electric heaters, furnaces and ovens.

Solids, 150 °C / 2 h
50±2%

Viscosity, Flow Cup No. 4, 25 °C
15–40 s

LR-EP167

Epoxy-modified methyl phenyl silicone emulsion

Silfluo LR-EP167 is a non-ionic, epoxy-modified methyl phenyl silicone resin emulsion, a milky white liquid at 50±2% solids, viscosity 25–40 s (Flow Cup No. 4, 25 °C). Its epoxy groups (epoxy value 0.06–0.16 on solids) crosslink with water-based polyamide or amine curing agents at room temperature; heat resistance reaches 300 °C clear and 500 °C pigmented. Used in salt-spray-resistant high-temperature paints, such as for marine steam pipes.

Solids, 150 °C / 2 h
50±2%

Viscosity, Flow Cup No. 4, 25 °C
25–40 s

Epoxy value, on solids
0.06–0.16

LR-E212

MQ silicone resin emulsion for mold release

Silfluo LR-E212 is a non-ionic methyl MQ silicone resin emulsion, a milky white liquid at 60±2% solids, viscosity ≥5,000 mPa·s, stable without separation after 30 min at 3,000 rpm. Diluted with water and applied to the mold, it wets and spreads well and leaves a heat-resistant silicone release film as the water evaporates. Used as a water-based release agent for polyurethane parts, starting at 5 g of emulsion per 1,000 cm² of mold.

Solids, 150 °C / 2 h
60±2%

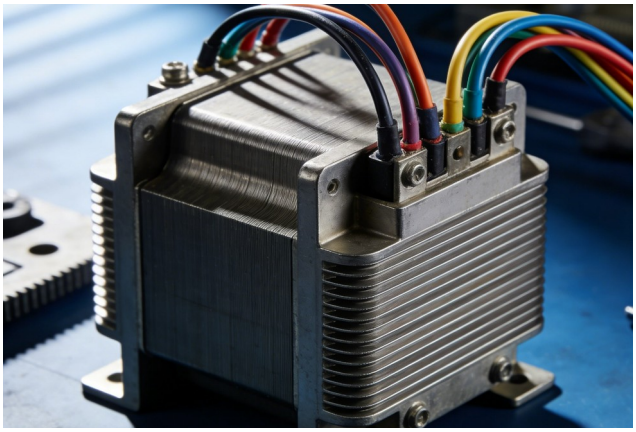
Viscosity, 25 °C
≥5000 mPa·s

Stability, 3000 rpm / 30 min
no separation

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APPLICATIONS

Typical applications



Electrical insulation

Class H motors, transformer coils, impregnation of glass fiber covered wire, flexible mica tapes and varnished glass cloth.

GRADES

LR-160 · LR-162 · LR-163 · LR-030 · LR-M161



Industrial heat-resistant coatings

Exhaust pipes, precipitators, furnaces, boilers, heat pipelines and large equipment. Aluminum-pigmented films withstand 500 °C.

GRADES

LR-H160 · LR-H167 · LR-H168 · LR-S164 · LR-H161 · LR-S161 · LR-E168



Appliances and cookware

Heat-resistant finishes for ovens, stoves, grills and kitchen appliance housings.

GRADES

LR-131 · LR-M161 · LR-M164 · LR-E169



Powder and coil coatings

Heat-resistant and weather-resistant powder coatings, silicone-modified polyester coil coatings and polysiloxane protective coatings.

GRADES

LR-TMP10 · LR-240/241/242

PROCESSING

Working with silicone resins

Dilution

Dilute with ketones, esters, toluene or xylene. Diluents must be free of water, acids, alkalis, amines and sulfur-containing impurities, which impair adhesion, drying and film properties. Alkoxy-functional LR-037 takes only hydroxyl-free solvents such as xylene.

Curing

Heat-cure grades reach full properties when baked, for example 2 h at 180 °C (LR-H160) or ≤2 h at 200 °C (LR-163). Air-drying grades are surface dry in ≤2 h at room temperature. The LR-M123 and LR-M124 series also cure at room temperature with aliphatic polyisocyanates at 10–20% of the total resin weight.

Heat-resistance values

Unless stated otherwise, heat resistance refers to a film of resin and leafing aluminum powder at 4:1, held for 3 h at the stated temperature without peeling, cracking or blistering (LR-M125: 4 h).

Safety

Solvent-borne grades contain toluene or xylene and are flammable. Process with explosion-proof ventilation, away from ignition sources and static electricity, and wear suitable protective equipment. See the SDS of each grade.

Storage

Store cool, dry and ventilated, away from direct sunlight, acids and alkalis, in the original closed containers. Shelf life is 6 months for most liquid grades and emulsions and 12 months for the LR-240 series.

Packaging

Product group	Packaging
Solvent-borne and solvent-free resins	200 kg drums
Emulsions (LR-E168, LR-EP167)	50 kg plastic pails, 200 kg plastic drums
Solid resins (LR-240 series)	50 kg fiber drums with plastic liner

Packaging is given per grade in the TDS; other pack sizes on request.

Silfluo

TECHNICAL SUPPORT

Selecting a grade

To recommend a grade, our technical team needs a few details about your application:

01 Substrate: aluminum, cold-rolled steel, ceramics, glass, plastic or other

02 Main requirements: heat resistance, corrosion protection, hardness, adhesion, electrical insulation

03 Temperature: continuous operating temperature and short-term peak

04 Environment: indoor or outdoor; exposure to acids, alkalis or salt spray

05 Application method: spraying, brushing, roller coating or dipping

06 Curing: air-drying at room temperature or baking (temperature and time)

07 Final form: clear varnish or pigmented coating

08 Reference grade you use today (optional)

09 Requirements on solvents, VOC, RoHS or REACH

Technical data sheets, safety data sheets and samples are available on request.

CONTACT

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The data in this brochure are typical values, not specifications. Please conduct a trial before using a product to confirm that it is suitable for the intended use. The uses described do not guarantee freedom from conflict with any patent. Comparable grades are given for orientation only; trademarks are the property of their respective owners.