

# Elan-tron®

Silicone Materials for Electrical Applications

New technologies and the demand for improved productivity levels have a direct impact on today's markets and materials used. The requirements for materials to operate within higher temperature ranges or for softer materials with improved chemical and UV resistance are steadily increasing.

We know exactly what our customers need as we are always close to the market. Our aim is always to provide the best solution for our customers. Based on our deep chemical and technological understanding we developed a range of silicone products which fully meet these requirements.

We have expanded our existing portfolio of Elan-tron® potting materials with the inclusion of a dedicated range of silicone compounds and gels as well as sealants and adhesives. A tailored design following precisely the demands of the customer is the major principle in the development of these products.

Our silicone portfolio includes 2-component addition cure potting compounds and gels, 2-component condensation cure systems as well as 1-component materials (oxime and alkoxy). Where an improved adhesion is required our R&D specialists offer full support to provide an optimum and individual solution with a primer or with plasma treatment.

Our product range offers materials to cover a wide spectrum of application areas in the electrical industry, e.g. lifting magnets, power transformers, total encapsulation, encapsulation of end windings, potting insulators, cable joints, sensors and heating elements.

## Elan-tron®

### Silicone Materials for Electrical Applications



Total Encapsulation



Potting of Lifting Magnets



Potting of Sensors



Potting of Cable Joints

## Main characteristics of silicones:



### High Stability

Resistance against: UV light, ozone, temperature extremes, oxidation, weathering, aging



### Excellent Thermal Properties

Wide range of operating temperatures from -55 °C up to 300 °C



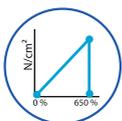
### Excellent Electrical Properties

Superior dielectric properties very stable in the range of operating temperatures



### High Chemical Resistance

Resistance to chemical aggression



### High Elongation

Wide variety of hardness



### Flame Retardant

Difficult to burn: for most products UL 94 V0 or V1



### No Toxic Fumes

In case of fire fumes have a very low concentration of dangerous products



### Safe Handling

The majority of the products are non hazardous

### Elan-tron® SA 60 Series – Alkoxy 1 Part Silicones Adhesives

Elan-tron® SA 60 Series is a 1 part condensation cure family (alkoxy) specially designed for corrosion sensitive devices. Products have very good adhesion to many substrates as well as good dielectric properties and temperature resistance (from - 55 °C up to 200 °C). They are designed to provide flexible bonding in electrical assembly, sealing modules and housings, assembly of components, sealing in and around wired and electrical leads.

| Alkoxy Cure 1-Part    | Elongation at break [%] | Tensile Strength [Mpa] | Colour      | Viscosity [mPas] | Tack Free Time [min] | Hardness [Shore] | Thermal Conductivity [W/mK] |
|-----------------------|-------------------------|------------------------|-------------|------------------|----------------------|------------------|-----------------------------|
| Elan-tron® SA 60V1-36 | 140                     | 1,52                   | Translucent | 1.200            | 10                   | A 36             | 0,20                        |
| Elan-tron® SA 60L1-30 | 240                     | 1,05                   | Translucent | 11.500           | 11                   | A 30             | 0,20                        |
| Elan-tron® SA 60P1-15 | 540                     | 2,70                   | Translucent | Paste            | 15                   | A 15             | 0,20                        |
| Elan-tron® SA 60P1-30 | 545                     | 2,43                   | Translucent | Paste            | 10                   | A 30             | 0,20                        |
| Elan-tron® SA 60P1-34 | 580                     | 2,00                   | White       | Paste            | 15                   | A 34             | 0,50                        |
| Elan-tron® SA 60P9-37 | 450                     | 2,40                   | Black       | Paste            | 15                   | A 37             | 0,50                        |
| Elan-tron® SA 60P9-60 | 200                     | 2,35                   | Black       | Paste            | 3                    | A 60             | 0,60                        |

### Elan-tron® SA 61 Series – Oxime 1 Part Silicones Adhesives

Elan-tron® SA 61 Series is a 1 part condensation cure family (oxime). Products have very good dielectric properties and excellent adhesion to most common substrates used in the electrical and mechanical industry. The temperature resistance is in the range of -50 °C up to 240 °C. The products are an ideal option for many electrical and lighting applications where high performance is a must.

| Oxime Cure 1-Part     | Elongation at break [%] | Tensile Strength [Mpa] | Colour      | Viscosity [mPas] | Tack Free Time [min] | Hardness [Shore] | Thermal Conductivity [W/mK] |
|-----------------------|-------------------------|------------------------|-------------|------------------|----------------------|------------------|-----------------------------|
| Elan-tron® SA 61L1-20 | 400                     | 2,00                   | Translucent | 26.000           | 14                   | A 20             | 0,20                        |
| Elan-tron® SA 61P1-37 | 300                     | 2,15                   | Translucent | Paste            | 5                    | A 37             | 0,20                        |
| Elan-tron® SA 61P9-55 | 250                     | 2,00                   | Black       | Paste            | 3                    | A 55             | 0,30                        |

### Elan-tron® AP Series – Primers

Elan-tron® AP Series are specially formulated primers designed to enhance adhesion of silicone rubbers to different substrates including most metals, rubber, polyester, nylon and other plastics.

| Primer                | Colour           | Viscosity [mPas] | Tack Free Time [min] |
|-----------------------|------------------|------------------|----------------------|
| Elan-tron® AP 64V8-02 | clear/<br>yellow | <20              | 20                   |
| Elan-tron® AP 64V8-03 | clear/<br>yellow | <20              | 30                   |

### Elan-tron® SK 65 Series – 2 Part Addition Cure Silicones

Elan-tron® SK 65 is a 2 part addition cure family. For easy application all products were designed with very low viscosity. They cure at room temperature but it is possible to accelerate the speed by heat. Thanks to their elastic properties and long term thermal resistance (-40 °C up to 200 °C) products are successfully used for protection and encapsulation of electrical sensitive devices and connections, LED's and displays, outdoor or harsh environment lighting housings, power modules, high voltage electrical components as well as high load resistors, etc. Products are flame retardant accordingly to UL 94.

| Addition Cure 2-Part rubber |                       | Colour      | Mixed Viscosity [mPas] | Process Time [min] | Hardness [Shore] | Thermal Conductivity [W/mK] |
|-----------------------------|-----------------------|-------------|------------------------|--------------------|------------------|-----------------------------|
| Elan-tron® SK 65V1-35       | Elan-tron® SH 69V2-35 | White-Beige | 990                    | 180                | A 35             | 0,30                        |
| Elan-tron® SK 65V1-50       | Elan-tron® SH 69V1-50 | White-White | 3.000                  | 60                 | A 50             | 0,60                        |
| Elan-tron® SK 65V2-35       | Elan-tron® SH 69V5-35 | Beige-Blue  | 1.050                  | 75                 | A 35             | 0,38                        |
| Elan-tron® SK 65V2-45       | Elan-tron® SH 69V2-45 | Beige-Beige | 3.200                  | 60                 | A 40             | 0,54                        |
| Elan-tron® SK 65V2-55       | Elan-tron® SH 69V1-55 | Beige-Clear | 3.500                  | 35                 | A 55             | 0,30                        |
| Elan-tron® SK 65V2-65       | Elan-tron® SH 69V2-65 | Beige-Beige | 3.500                  | 60                 | A 65             | 0,45                        |
| Elan-tron® SK 65V2-70       | Elan-tron® SH 69V1-70 | Beige-Clear | 4.500                  | 30                 | A 70             | 0,51                        |

### Elan-tron® SG 65 Series – 2 Part Addition Cure Silicones Gels

Elan-tron® SG 65 Series is a 2 part addition cure family of very soft materials. They cure at room temperature but it is possible to accelerate the speed by heat. Thanks to their elastic properties and thermal resistance (from -45 °C up to 200 °C) they are successfully used for potting of cable joints and for protection of electrical components against mechanical stress and vibration.

| Addition Cure 2-Part gel |                        | Colour      | Mixed Viscosity [mPas] | Process Time [min] | Penetration [mm*10] | Thermal Conductivity [W/mK] |
|--------------------------|------------------------|-------------|------------------------|--------------------|---------------------|-----------------------------|
| Elan-tron® SG 65V1-15    | Elan-tron® SG 69V1-15  | Clear-Clear | 3.000                  | 60                 | pen 15              | 0,20                        |
| Elan-tron® SG 65V1-42    | Elan-tron® SG 69V5-42  | Clear-Blue  | 1.000                  | 8                  | pen 40              | 0,20                        |
| Elan-tron® SG 65V1-60    | Elan-tron® SG 69V1-60  | Clear-Clear | 350                    | 120                | pen 60              | 0,20                        |
| Elan-tron® SG 65V1-75    | Elan-tron® SG 69V1-75  | Clear-Clear | 925                    | 45                 | pen 75              | 0,20                        |
| Elan-tron® SG 65L2-30    | Elan-tron® SG 69L5-30  | Beige-Blue  | 10.500                 | 120                | pen 30              | 0,90                        |
| Elan-tron® SG 65L1-110   | Elan-tron® SG 69L1-110 | Clear-Clear | 9.750                  | 2                  | pen 110             | 0,20                        |

### Elan-tron® SK 66 Series – 2 Part Condensation Cure Silicones

Elan-tron® SK 66 Series is a 2 part condensation cure family. They cure room temperature. Thanks to their elastic properties and long-term thermal resistance (from -40 °C up to 180 °C) products are successfully used for casting coil heads and other components subject to thermal shock.

| Condensation Cure 2-Part |                       | Colour     | Mixed Viscosity [mPas] | Process Time [min] | Hardness [Shore] | Thermal Conductivity [W/mK] |
|--------------------------|-----------------------|------------|------------------------|--------------------|------------------|-----------------------------|
| Elan-tron® SK 66V2-50    | Elan-tron® SH 69V5-50 | Beige-Blue | 2.600                  | 30                 | A 50             | 0,40                        |
| Elan-tron® SK 66V2-75    | Elan-tron® SH 69V5-75 | Beige-Blue | 7.500                  | 20                 | A 75             | 0,42                        |

# Elan-tron®

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ELANTAS Europe with production sites in Germany and Italy is part of the division ELANTAS Electrical Insulation of the ALTANA group. As a leading manufacturer of insulating and protective materials for the electrical and electronics industry our portfolio includes wire enamels, impregnating resins and varnishes, casting and potting resins, electronic coatings, adhesives and flexible electrical insulation materials. In addition, we supply materials for other application areas such as special coatings, printed electronic products as well as tooling and composite materials.

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