

# Trelleborg Rubore Adhesive Systems

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The definition of an adhesive is:

A substance capable of holding materials together by surface attachment.

The primary way of bonding adhesives is a polar attraction to the backingplate, which always requires pressure to achieve sufficient wet-out onto the surface to provide adequate adhesion.

The shim is pressed towards the backingplate to ensure a proper wet-out on the steel surface. This process can be performed in a conventional press, clamping wheel or similar equipment.

Rubore recommends,

- 100N/cm<sup>2</sup> (145psi) for 5 sec at 20°C (68°F)

A higher temperature can decrease time until complete wet out.

Rubore provides both acrylic and silicone based adhesives.

# Trelleborg Rubore Adhesive Systems

## Cold Bonding Adhesive, System-7

### Pressure Sensitive Adhesive

The System-7 Pressure Sensitive Adhesive is a very high quality cold bonding adhesive. System-7 is also a very good noise damper, and is used in certain installations not only for bonding, but also as an insulating material towards the piston or the fingers.

The activating time is very short, which can save time in production.

- The adhesive is available in two different protection materials:

<b>Thickness of adhesive</b> .....	0.12 mm	+0.01	-0.01
Thickness of plastic protection .....	0.10 mm	+0.02	-0.01

#### Protection materials:

Paper protection .....	Silicone coated paper, released before application
Plastic protection .....	Silicone coated plastic, released before application

<b>Adhesion type</b> .....	Clear Acrylic
<b>Connection method</b> .....	Pressure
<b>Application temperature</b> .....	20°C (68°F)
<b>Bonding time</b> .....	Five seconds
<b>Bonding pressure</b> .....	100 N/cm <sup>2</sup> (145 psi)
<b>Curing</b> .....	72 hours at room temperature
<b>Shear strength test</b> .....	1100 N
<b>Adhesion to steel (T-pull test)</b> .....	4,9 N/mm
<b>Tack</b> .....	19 N (4,3 lbf)

## System-7 Pressure Sensitive Adhesive

Temperature resistance..... Continuous -40 - 200°C (-40 - 392°F)

Storage and shelf life..... Two years when stored at room temperature at approximately 50% relative humidity, out of direct sunlight.

### Solvent Resistance

This acrylic adhesive resists strong acids and alkalis, most oils, grease, gasoline, kerosene, JP4-fuel, hydraulic fluids and other aromatic and aliphatic hydrocarbons and ketone solvents.

### Water Resistance

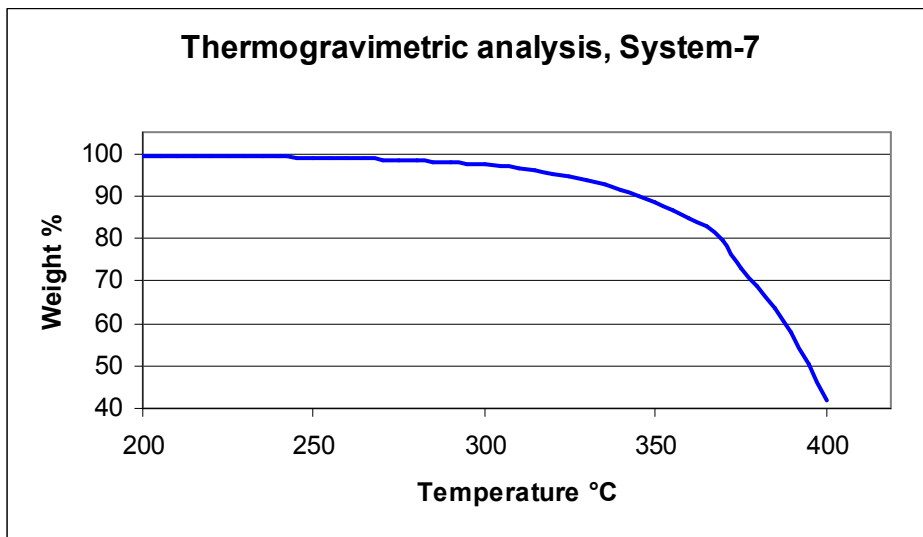
The adhesive will not be affected by water. (Tested at 20°C for 100 hours after application.)

### Application

The surface of the backing plate must be free from dirt and grease.

The Rubore-7 shims/insulator is fixed to the backing plate using following parameters:

Pressure	Temperature	Time
100 N/cm <sup>2</sup> (145 psi)	Room temperature	5 seconds



### IMPORTANT

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# Trelleborg Rubore Adhesive Systems

## Cold Bonding Adhesive, System-9

### Pressure Sensitive Adhesive

The System-9 Pressure Sensitive Adhesive is a very high quality cold bonding adhesive. System-9 is also a very good noise damper, and is used in certain installations not only for bonding, but also as an insulating material towards the piston or the fingers.

The activating time is very short, which can save time in production.

<b>Thickness of adhesive</b> .....	0.10 mm	+0.01	-0.01
Alternative 1    Thickness of plastic protection .....	0.08 mm	+0.01	-0.01
Alternative 2    Thickness of paper protection .....	0.15 mm	+0.01	-0.01

#### Protection materials:

**Paper protection** ..... Silicone coated paper, released before application

**Adhesion type** ..... Clear Acrylic

**Connection method** ..... Pressure

**Application temperature** ..... 20°C (68°F)

**Bonding time** ..... Five seconds

**Bonding pressure** ..... 100 N/cm<sup>2</sup> (145 psi)

**Curing**..... 72 hours at room temperature

**Shear strength test** ..... 1270 N

**Adhesion to steel (T-pull)** ..... 4,0 N/mm

**Tack**..... 19 N (4,3 lbf)

## System-9 Pressure Sensitive Adhesive

Temperature resistance..... Continuous -40 - +175°C (-40 - 347°F)  
Short duration to +200° C (+392°F)

Storage and shelf life..... Two years when stored at room temperature at approximately 50% relative humidity, out of direct sunlight.

### Solvent Resistance

This acrylic adhesive resists strong acids and alkalis, most oils, grease, gasoline, kerosene, JP4-fuel, hydraulic fluids and other aromatic and aliphatic hydrocarbons and ketone solvents.

### Water Resistance

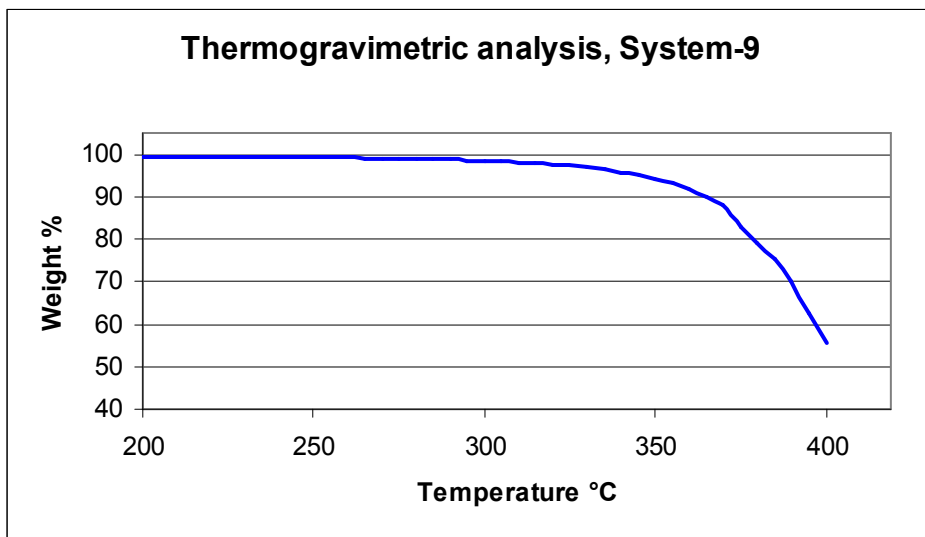
The adhesive will not be affected by water. (Tested at 20°C for 100 hours after application.)

### Application

The surface of the backing plate must be free from dirt and grease.

The Rubore-9 shims/insulator is fixed to the backing plate using following parameters:

Pressure	Temperature	Time
100 N/cm <sup>2</sup> (145 psi)	Room temperature	5 seconds



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# RUBORE ADHESIVE SYSTEMS

## Cold Bonding Adhesive, System-A

### Pressure Sensitive Adhesive

The System-A Pressure Sensitive Adhesive is a very high quality cold bonding adhesive. System-A is also a very good noise damper, and is used in certain installations not only for bonding, but also as an insulating material towards the piston or the fingers.

The activating time is very short, which can save time in production.

Thickness of adhesive .....	0.05 mm	+0.01	-0.01
	0.12 mm	+0.01	-0.01
Adhesion type .....	Clear acrylic		
Connection method .....	Pressure		
Application temperature .....	20°C (68°F)		
Bonding time .....	Five seconds		
Bonding pressure .....	100 N/cm <sup>2</sup> (145 psi)		
Curing.....	72 hours at room temperature		
Shear strength test .....	850 N		
Adhesion to steel (T-pull test) .....	4,0 N/mm		
Tack.....	20 N (4,5 lbf)		

## System-A Pressure Sensitive Adhesive

**Temperature resistance**..... Continuous -40 - 200°C (-40 - 392°F)

**Storage and shelf life**..... Two years when stored at room temperature at approximately 50% relative humidity, out of direct sunlight.

### Solvent Resistance

This acrylic adhesive resists strong acids and alkalis, most oils, grease, gasoline, kerosene, JP4-fuel, hydraulic fluids and other aromatic and aliphatic hydrocarbons and ketone solvents.

### Water Resistance

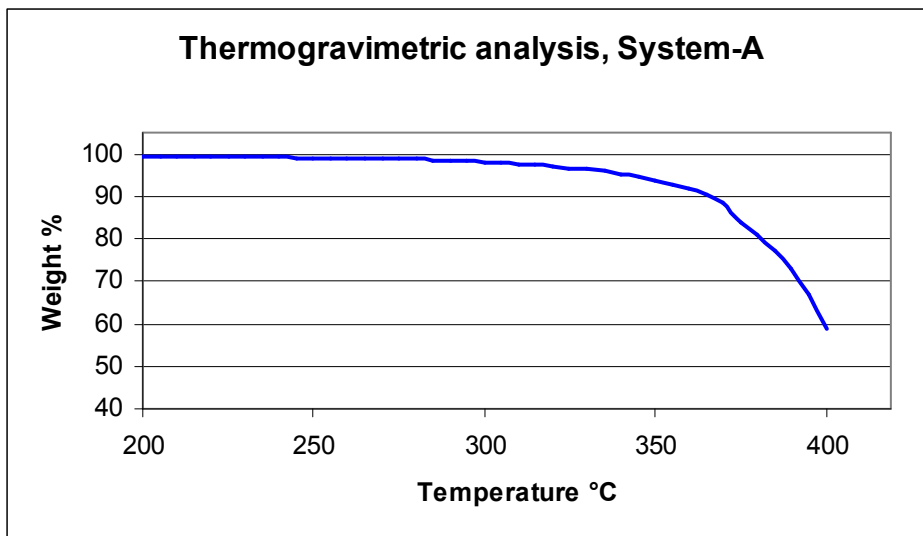
The adhesive will not be affected by water.

### Application

The surface of the backing plate must be free from dirt and grease.

The Rubore-A shims/insulator is fixed to the backing plate using following parameters:

Pressure	Temperature	Time
100 N/cm <sup>2</sup> (145 psi)	Room temperature	5 seconds



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# Trelleborg Rubore Adhesive Systems

## **Cold Bonding Adhesive, System-S Pressure Sensitive Silicone Adhesive**

The System-S Pressure Sensitive Silicone Adhesive is a very high quality cold bonding adhesive. System-S is also a very good noise damper, and is used in certain installations not only for bonding, but also as an insulating material towards the piston or the fingers.

The activating time is very short, which can save time in production.

<b>Thickness of adhesive</b> .....	0.08 mm +0.01 -0.01
	0.05 mm +0.01 -0.01
<b>Adhesion type</b> .....	Silicone
<b>Connection method</b> .....	Pressure
<b>Application temperature</b> .....	20°C (68°F)
<b>Bonding time</b> .....	Five seconds
<b>Bonding pressure</b> .....	100 N/cm <sup>2</sup> (145 psi)
<b>Curing</b> .....	72 hours at room temperature
<b>Shear strength test</b> .....	570 N
<b>Adhesion to steel (T-pull test)</b> .....	3,4 N/mm
<b>Tack</b> .....	19 N (4,3 lbf)
<b>Temperature resistance</b> .....	Continuous: min 200°C (392°F)
<b>Storage and shelf life</b> .....	6 months when stored at room temperature at approximately 50% RH, out of direct sunlight.

## System-S Pressure Sensitive Adhesive

### Solvent Resistance

Short term / discontinuous contact:

No problems with automotive fuels, alcohols, ketons and aromatic solvents.

Long term / continuous contact (immersion):

Restricted for automotive fuels and aromatic solvents (min 24h)

### Water Resistance

Water immersion: min 1 week

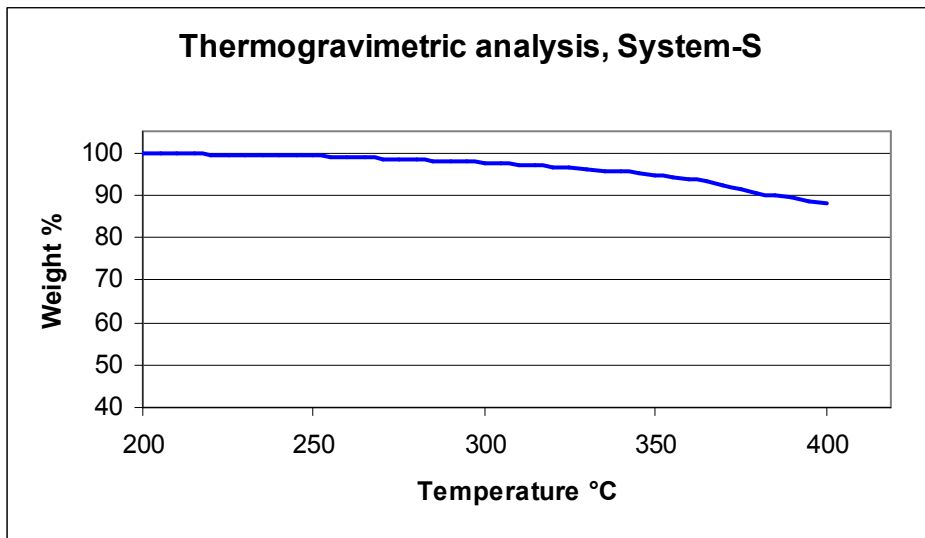
### Application

The surface of the backing plate must be free from dirt and grease.

The Rubore-S adhesive is only for shim applications with mechanical fixing.

The Rubore-S shims/insulator is bonded to the backing plate using following parameters:

Pressure	Temperature	Time
100 N/cm <sup>2</sup> (145 psi)	Room temperature	5 seconds



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# Trelleborg Rubore Adhesive Systems

## Cold Bonding Adhesive, System-L

### Pressure Sensitive Adhesive for low temperature damping

The System-L Pressure Sensitive Adhesive is a very high quality ultra cross-linked cold bonding adhesive typified by very good flow properties at low temperatures.

System-L provides very good vibration damping characteristics over a wide temperature range with excellent low temperature damping combined with a very good temperature resistance.

The activating time is very short, which can save time in production.

<b>Thickness of adhesive</b> .....	0.08 mm	+0.01	-0.01
<b>Thickness of plastic protection</b> .....	0.13 mm	+0.02	-0.01
<b>Connection method</b> .....	Pressure		
<b>Application temperature</b> .....	20°C (68°F)		
<b>Bonding time</b> .....	Five seconds		
<b>Bonding pressure</b> .....	100 N/cm <sup>2</sup> (145 psi)		
<b>Curing</b> .....	72 hours at room temperature		
<b>Shear strength test</b> .....	600 N		
<b>Adhesion to steel (T-pull test)</b> .....	4,0 N/mm		
<b>Tack</b> .....	18 N/25mm		

## System-L, Low Temperature Damping Adhesive

Temperature resistance..... Continuous -40 to +200°C (-40 - 392°F)  
Short term +250 (482°F)

Storage and shelf life..... Two years when stored at 18-22°C at 30-70% RH,  
out of direct sunlight.

### Solvent Resistance

This acrylic adhesive resists strong acids and alkalis, most oils, grease, gasoline, kerosene, JP4-fuel, hydraulic fluids and other aromatic and aliphatic hydrocarbons and ketone solvents.

### Water Resistance

The adhesive will not be affected by water.

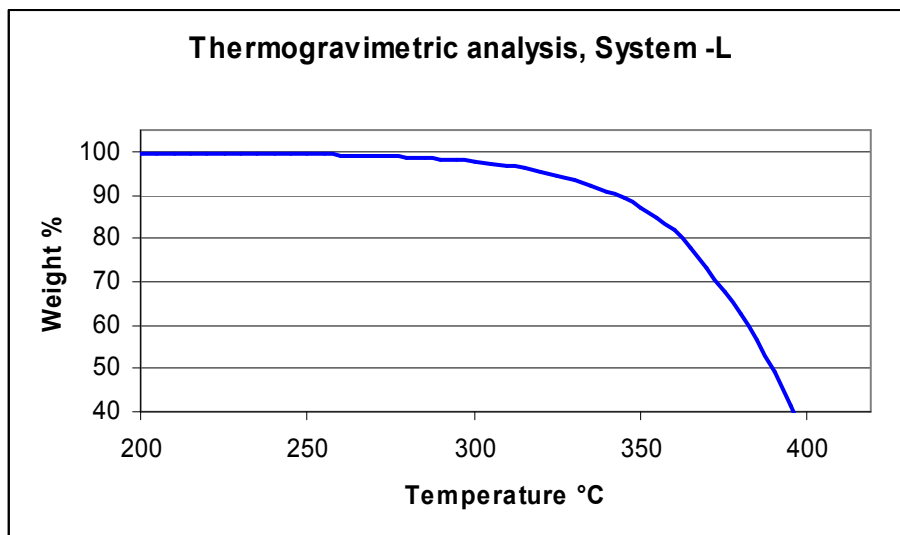
### Application

The surface of the backing plate must be clean, dry and free from dirt, grease and oil.

The Rubore-L adhesive is only for shim applications with mechanical fixing.

The Rubore-L shims/insulator is fixed to the backing plate using following parameters:

Pressure	Temperature	Time
100 N/cm <sup>2</sup> (145 psi)	Room temperature	5 seconds



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