

# Applications of Neuburg Siliceous Earth in Elastomers

Author: Hubert Oggermüller

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# Car Body Seals Solid / Foamed

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## Automotive

Machine and  
Equipment Construction

Cable and Electrical  
Industry

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Other Applications

## Advantages:



- good extrusion properties
- high surface quality
- low moisture content
- high tensile modulus
- low compression set
- high electrical resistance (compared with carbon black)
- avoids deposits on dies caused by filler

# Car Body Seals Solid / Foamed

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## Recommended Products:

- Sillitin N 82      standard product for non-critical compounds with low requirements
- Sillitin N 85      standard product for slightly higher requirements for dispersion, low compression set, good matting effect
- Sillitin Z 86      standard product with improved extrusion quality/edge smoothness of complex profiles, less wear than Sillitin N products
- Sillikolloid P 87      best extrusion quality/edge smoothness and collapse resistance of complex profiles and stability, lesser matting effect, higher tensile strength and tear resistance, least wear

### Automotive

Machine and  
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# Car Body Seals Solid / Foamed

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## Recommended Products:

- Silfit Z 91 as Sillitin Z 86 but with avoidance of deposits on dies caused by filler, greater brightness and color neutrality, less moisture content, improved dispersion, lower compression set, very fine cell structure in sponge rubber profiles
- Aktisil MM as Sillitin Z 86 but with higher tensile strength, higher tensile modulus, lower compression set, improved abrasion resistance
- Aktisil PF 216 as Aktisil MM but with highest tensile strength and tensile modulus as well as lowest compression set and best abrasion resistance
- Aktifit AM as Silfit Z 91 but with higher tensile strength, higher tensile modulus and lower compression set, improved abrasion resistance

Automotive

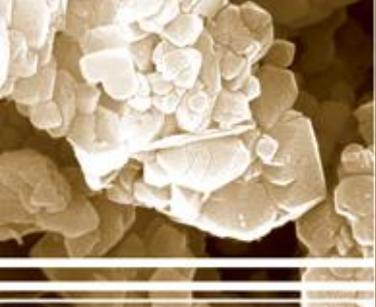
Machine and  
Equipment Construction

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Other Applications

# Direct Glazing of Fixed Side Windows

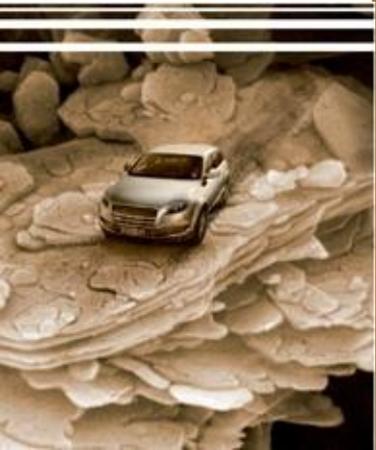


- Automotive
- Machine and Equipment Construction
- Cable and Electrical Industry
- Construction Industry
- Other Applications

## Advantages:



- good mixing and dispersion properties
- long flow time with short vulcanization time
- easy deflashing
- low compression set
- matting
- high surface quality and evenness



# Direct Glazing of Fixed Side Windows



## Recommended Products:

- Sillitin Z 86                      standard product
- Silfit Z 91                          as Sillitin Z 86 but with avoidance of mold fouling caused by filler, less moisture content, improved dispersion, slightly lower compression

### Automotive

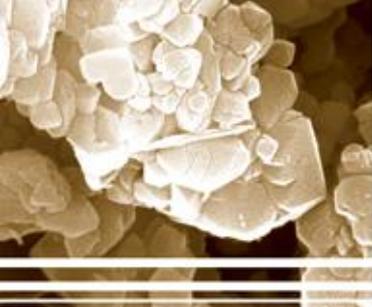
Machine and  
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Other Applications

# Molded Gaskets, O-Rings and Radial Shaft Seals



Automotive

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Equipment Construction

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Other Applications



## Advantages:



- very low sieve residue
- good mixing and dispersion properties
- long flow time with short vulcanization time
- easy deflashing
- low compression set
- good media resistance (oil, water, acid)
- avoidance of mold fouling caused by filler

# Molded Gaskets, O-Rings and Radial Shaft Seals

**HOFFMANN**  
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## Recommended Products:

- Sillitin N 82            standard product for non-critical compounds with low requirements
- Sillitin N 85            standard product for slightly higher requirements for color and dispersion, low compression set
- Sillitin Z 86            standard product, less wear than Sillitin N products
- Sillikolloid P 87        higher tensile strength and tear resistance, least wear
- Silfit Z 91              as Sillitin N 85 but with avoidance of mold fouling caused by filler, greater brightness and color neutrality, less moisture content, improved dispersion, very fine cell structure in sponge rubber parts

### Automotive

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Other Applications

# Molded Gaskets, O-Rings and Radial Shaft Seals

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## Recommended Products:

*especially for diamine crosslinking (ACM, AEM):*

- Aktifit AM as Silfit Z 91 but with higher tensile strength, higher tensile modulus and lower compression set, better abrasion resistance, improved resistance

### Automotive

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Other Applications

# Molded Gaskets, O-Rings and Radial Shaft Seals

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## Recommended Products:

*especially for sulphur and metal-oxide crosslinking:*

- Aktisil MM as Sillitin Z 86 but with higher tensile strength, higher tensile modulus and lower compression set even over 100 °C, better abrasion resistance, improved resistance
- Aktisil PF 216 as Aktisil MM but with highest tensile strength and tensile modulus as well as lowest compression set up to 100 °C, best abrasion resistance, best resistance
- Aktifit AM as Silfit Z 91 but with higher tensile strength, higher tensile modulus and lower compression set, better abrasion resistance, improved resistance

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Other Applications

# Molded Gaskets, O-Rings and Radial Shaft Seals

**HOFFMANN**  
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## Recommended Products:

*especially for peroxide crosslinking:*

- Aktisil VM 56 as Sillitin Z 86 but with higher tensile strength, higher tensile modulus and lower compression set, better abrasion resistance, improved resistance
- Aktisil VM 56/89 as Aktisil VM 56 but for greater color neutrality requirements and slightly improved dispersion
- Aktifit Q similar to Aktisil VM 56/89 but with less moisture content, lower viscosity, lower compression set, improved resistance, best product for silicone rubber
- Aktifit VM as Silfit Z 91 but with higher tensile strength, higher tensile modulus and lower compression set, better abrasion resistance, improved resistance

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Other Applications

# Radiator Hoses

## Advantages:



- high extrusion speed
- high tensile modulus
- low compression set
- coolant resistance
- high electrical resistance

### Automotive

Machine and  
Equipment Construction

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Other Applications

# Radiator Hoses



## Recommended Products:

- Sillitin N 85            standard product
- Sillitin Z 86            standard product with better extrusion properties, less wear than Sillitin N products
- Silfit Z 91              as Sillitin N 85 but with avoidance of mold fouling caused by filler, less moisture content, improved dispersion

## *especially for sulphur crosslinking:*

- Aktisil MM              as Sillitin Z 86 but with higher tensile strength, higher tensile modulus and lower compression set, better abrasion resistance, improved resistance
- Aktifit AM              as Silfit Z 91 but with higher tensile strength, higher tensile modulus and lower compression set, better abrasion resistance, improved resistance

### Automotive

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Other Applications

# Radiator Hoses



## Recommended Products:

*specially for peroxide crosslinking:*

- Aktisil VM 56 as Sillitin Z 86 but with higher tensile strength, higher tensile modulus and lower compression set, better abrasion resistance, improved resistance
- Aktifit VM as Silfit Z 91 but with higher tensile strength, higher tensile modulus and lower compression set, better abrasion resistance, improved resistance

### Automotive

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Other Applications

# HCR Silicone Turbocharger Hoses

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## Automotive

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Other Applications

## Advantages:



- high extrusion speed
- high collapse resistance for hose extrusion
- high tensile modulus
- low compression set
- heat resistance
- high oil resistance

## Recommended Products:

- Aktisil Q

# Timing Belts

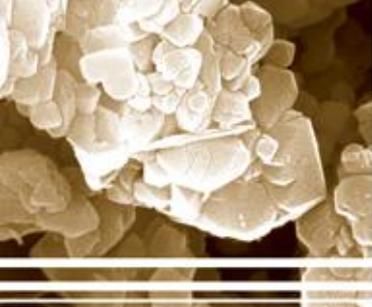
## Advantages



- good processing properties
- good adhesive strength to reinforcing materials
- good dynamic properties
- low compression set
- high oil resistance

## Recommended Products:

- Aktisil PF 216  
for sulphur and metal-oxide crosslinking
- Aktisil VM 56  
for peroxide crosslinking



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# Conveyor Belt Skim Components

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Other Applications

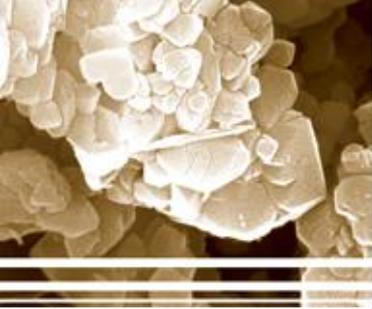
## Advantages:



- good processing properties
- good calendering properties
- good adhesive strength to reinforcing materials
- high tensile modulus

# Conveyor Belt Skim Components

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## Recommended Products:

- Sillitin N 82            standard product for non-critical compounds with low requirements
- Sillitin N 85            standard product for slightly higher requirements for color and dispersion
- Sillitin Z 86            standard product, less wear than Sillitin N products



# Washing Machine Gasket

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## Advantages:



- long flow time with short vulcanization time
- good balance between tensile strength, tear resistance and compression set
- good suds resistance
- potential substitute for silica
- potential for reducing titanium dioxide and zinc oxide
- avoidance of mold fouling caused by filler

# Washing Machine Gasket

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## Recommended Products:

- Sillitin N 85      standard product
- Sillitin Z 86      standard product, less wear than Sillitin N products
- Sillikolloid P 87      higher tensile strength and tear resistance, least wear
- Silfit Z 91      as Sillitin N 85 but with avoidance of mold fouling caused by filler, greater brightness and color neutrality, less moisture content, improved dispersion, slightly lower compression set, substitute for silica and potential reduction of titanium oxide, zinc oxide and processing aids, reduced swelling in suds (silica substitute)

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# Roller Coverings and Printing Blankets

Automotive

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Other Applications

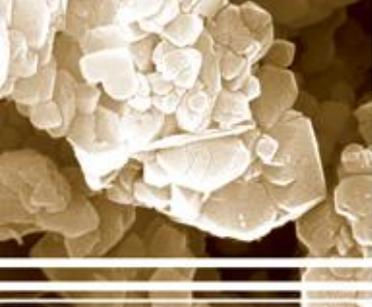
## Advantages:



- very low residue > 40  $\mu\text{m}$
- good mixing and dispersion properties
- good rubber-metal adhesive strength
- excellent grinding properties
- high surface quality
- good for laser engraving
- low heat build-up
- low compression set
- good media resistance (oil, water, acid)

# Roller Coverings and Printing Blankets

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Other Applications



## Recommended Products:

- Sillitin N 85            standard product
- Sillitin N 85 puriss for high requirements for dispersion
- Sillitin Z 86            standard product, less wear than Sillitin N 85
- Sillitin Z 86 puriss for high requirements for dispersion
- Silfit Z 91              as Sillitin N 85 puriss but with avoidance of mold fouling caused by filler, greater brightness and color neutrality, less moisture content



# Roller Coverings and Printing Blankets

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Other Applications

## Recommended Products:

*especially for sulphur and metal-oxide crosslinking:*



- Aktisil MM as Sillitin Z 86 but with higher tensile strength, higher tensile modulus and lower compression set even over 100 °C, better abrasion resistance, improved resistance, lower heat build-up
- Aktisil PF 216 as Aktisil MM but with highest tensile strength and tensile modulus as well as lowest compression set up to 100 °C, best abrasion resistance, best resistance, lowest heat build-up
- Aktifit AM as Silfit Z 91 but with higher tensile strength, higher tensile modulus and lower compression set, better abrasion resistance, improved resistance, lower heat

# Roller Coverings and Printing Blankets

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Other Applications

## Recommended Products:

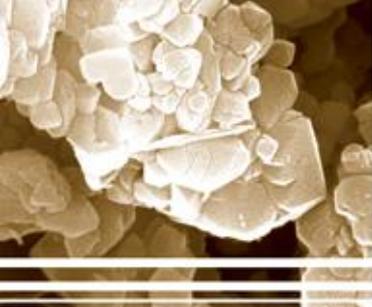
*especially for peroxide crosslinking:*

- Aktisil VM 56 as Sillitin Z 86 but with higher tensile strength, higher tensile modulus and lower compression set, better abrasion resistance, improved resistance, lower heat build-up
- Aktisil VM 56/89 as Aktisil VM but for greater neutrality requirements and slightly improved dispersion
- Aktisil Q similar to Aktisil VM 56/89 but with less moisture content, lower viscosity, lower compression set, improved resistance, best product for silicone rubber
- Aktifit VM as Silfit Z 91 but with higher tensile strength, higher tensile modulus and lower compression set, better abrasion resistance, improved resistance, lower heat build-up-abrasion resistance



# Roller Coverings and Printing Blankets

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Other Applications



## Recommended Products:

*especially for diamine crosslinking (ACM, AEM):*

- Aktifit AM as Silfit Z 91 but with higher tensile strength, higher tensile modulus and lower compression set, better abrasion resistance, improved resistance



# Elastomer-Metal Composites

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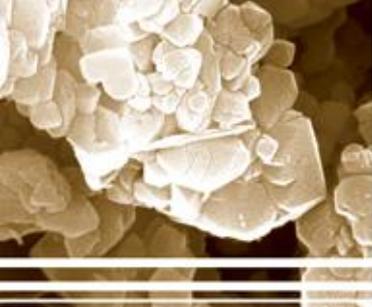
Other Applications

## Advantages:

- improved elastomer-metal adhesive strength



# Elastomer-Metal Composites



Automotive

Machine and Equipment Construction

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Construction Industry

Other Applications

## Recommended Products:

- Aktisil AM                      standard product
- Aktifit AM                      as Aktisil AM but with avoidance of mold fouling caused by filler, improved dispersion, slightly lower compression set



# Hydraulic and Fuel Hoses

oil-resistant hoses in general

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Other Applications

## Advantages:



- very good extrusion properties
- high surface quality
- high tensile modulus
- low compression set
- low oil swelling
- avoids deposits on dies caused by filler

# Hydraulic and Fuel Hoses

## oil-resistant hoses in general

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Other Applications

### Recommended Products:

- Sillitin Z 86                      standard product
- Silfit Z 91                              as Sillitin Z 86 but with avoidance of deposits on dies caused by filler, greater brightness and color neutrality, less moisture content, improved dispersion, slightly lower compression set



# Hydraulic and Fuel Hoses

## oil-resistant hoses in general

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### Recommended Products:

*specially for sulphur and metal-oxide crosslinking:*

- Aktisil MM as Sillitin Z 86 but with higher tensile strength, higher tensile modulus and lower compression set even over 100 °C, better abrasion resistance, improved resistance
- Aktisil PF 216 as Aktisil MM but with highest tensile strength and tensile modulus as well as lowest compression set up to 100 °C, best abrasion resistance, best resistance
- Aktifit AM as Silfit Z 91 but with higher tensile strength, higher tensile modulus and lower compression set, better abrasion resistance, improved resistance

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# Hydraulic and Fuel Hoses

## oil-resistant hoses in general

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Other Applications

### Recommended Products:

*especially for peroxide crosslinking:*

- Aktisil VM 56 as Sillitin Z 86 but with higher tensile strength, higher tensile modulus and lower compression set, better abrasion resistance, improved resistance
- Aktisil VM 56/89 as Aktisil VM 56 but for greater color neutrality requirements and slightly improved dispersion
- Aktisil Q similar to Aktisil VM 56/89 but with less moisture content, lower viscosity, lower compression set, improved resistance, best product for silicone rubber
- Aktifit VM as Silfit Z 91 but with higher tensile strength, higher tensile modulus and lower compression set, better abrasion resistance, improved resistance



# Hydraulic and Fuel Hoses

## oil-resistant hoses in general

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Other Applications

### Recommended Products:

*specially for diamine crosslinking (ACM, AEM):*

- Aktifit AM as Silfit Z 91 but with higher tensile strength, higher tensile modulus and lower compression set, better abrasion resistance, improved resistance



# Cable Sheaths, Cable Insulation

Automotive

Machine and  
Equipment Construction

Cable and Electrical  
Industry

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Other Applications

## Advantages:



- very good extrusion properties
- medium to high tensile strength
- good compressive property at high temperature
- good hot set property
- high electrical resistivity, also after immersion in water
- very low dielectric loss, also after immersion in water, even without additional silane in the compound
- avoidance of deposits on dies caused by filler
- good media resistance (oil, water, acid)

# Cable Sheaths, Cable Insulation

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Automotive

Machine and  
Equipment Construction

Cable and Electrical  
Industry

Construction Industry

Other Applications

## Recommended Products:

- Sillitin Z 86                      standard product
- Silfit Z 91                          as Sillitin Z 86 but with avoidance of deposits on dies caused by filler, greater brightness and color neutrality, less moisture content, improved dispersion, slightly lower compression set, significantly lower dielectric loss



# Cable Sheaths, Cable Insulation

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## Recommended Products:

*especially for sulphur and metal-oxide crosslinking:*

- Aktisil MM as Sillitin Z 86 but with higher tensile strength, higher tensile modulus and lower compression set even over 100 °C, better abrasion resistance, improved resistance
- Aktisil PF 216 as Aktisil MM but with highest tensile strength and tensile modulus as well as lowest compression set up to 100 °C, best abrasion resistance, best resistance
- Aktifit AM as Silfit Z 91 but with higher tensile strength, higher tensile modulus and lower compression set, better abrasion resistance, improved resistance

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Other Applications

# Cable Sheaths, Cable Insulation

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## Recommended Products:

*specially for peroxide crosslinking:*

- Aktisil VM 56 as Sillitin Z 86 but with higher tensile strength, higher tensile modulus and lower compression set, better abrasion resistance, improved resistivity, high and constant electrical resistivity when immersed in water
- Aktisil VM 56/89 as Aktisil VM 56 but for greater color neutrality requirements and slightly improved dispersion
- Aktisil Q similar to Aktisil VM 56/89 but with less moisture content, lower viscosity, lower compression set, improved resistance, best product for silicone rubber

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Other Applications

# Cable Sheaths, Cable Insulation

**HOFFMANN**  
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## Recommended Products:

*especially for peroxide crosslinking:*

- Aktifit VM as Silfit Z 91 but with higher tensile strength, higher tensile modulus and lower compression set, better abrasion resistance, improved resistance, very low dielectric loss, also after immersion in water, also without additional silane in the compound, best product for medium- and high-voltage insulation

Automotive

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# Condenser Gaskets

## Advantages:



- very low sieve residue
- very low chloride content
- long flow time with short vulcanization time
- high tensile modulus
- low compression set
- good hot air aging properties
- sealing tightness at high soldering temperatures

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Other Applications

# Condenser Gaskets



## Recommended Products:

*especially for peroxide crosslinked EPDM Compounds:*

- Aktisil VM 56      standard product, good processing properties, high tensile modulus and low compression set
- Aktifit VM      similar to Aktisil VM 56, improved processing properties, higher tensile modulus, lower compression set, better aging properties

*especially for resin crosslinking of butyl rubber (IIR):*

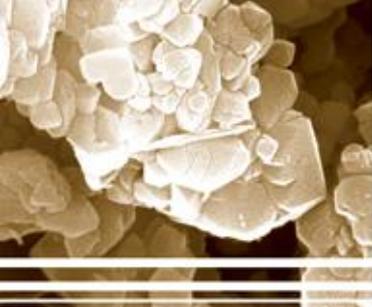
- Silfit Z 91      standard product, balanced properties, good processing properties, counter product to non-surface-treated calcined kaolinite
- Aktisil VM 56      similar to Silfit Z 91 but with higher tensile modulus, lower compression set and slightly increased electrical resistance

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# Condenser Gaskets



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## Recommended Products:

*especially for resin crosslinking of butyl rubber (IIR):*

- Aktifit AM as Aktisil VM 56 but with improved processing properties and further increased tensile modulus
- Aktisil MAM-R as Aktisil VM 56 but with slightly improved processing properties and further increased tensile modulus
- Aktifit VM as Aktisil MAM-R but with mostly improved aging properties, counter product to surface-treated calcined kaolinite, but with improved processing and aging properties and better compression set
- Aktisil EM similar to Aktisil VM 56 but in combination with carbon black N-990 highest tensile modulus



# Floor Coverings

## Advantages:



- good mixing and dispersion properties
- good calendering properties
- long flow time, short vulcanization time
- low residual indentation
- less white scratch marks
- high surface quality
- high abrasion resistance
- good resistance to aggressive substances

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# Floor Coverings



## Recommended Products:

- Sillitin N 87                      standard product, balanced properties
- Sillitin Z 86                      similar to Sillitin N 87, preferably used as a substitute for silica and fillers in combination with silane, improved abrasion resistance
- Sillitin Z 89                      as Sillitin Z 86 but for lighter floor coverings and better color neutrality
- Silfit Z 91                         as Sillitin Z 89 but for white and brilliant floor coverings, reduced need for titanium dioxide and color pigments, viscosity similar to that of Sillitin N 87

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# Roofing Membranes

## Advantages:



- good calendering properties
- high tensile modulus
- good resistance to aggressive substances as acids and other chemicals

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# Roofing Membranes



## Recommended Products:

- Sillitin N 82                      standard product for non-critical compounds with low requirements
- Sillitin N 85                      standard product for slightly higher requirements for color and dispersion, low compression set
- Sillitin Z 86                      standard product, less wear than Sillitin N products
- Silfit Z 91                         for white roofing membranes with improved processing properties

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# Anti-corrosion Lining

## Advantages:



- good processing properties
- good calendering properties
- good resistance to aggressive substances as acids and other chemicals

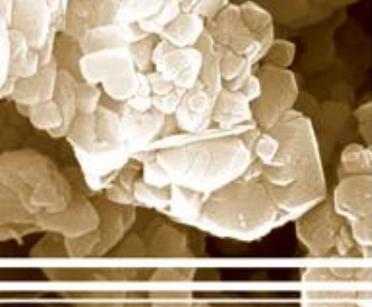
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# Anti-corrosion Lining

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Other Applications



## Recommended Products:

- Sillitin N 82                      standard product for non-critical compounds with low requirements
- Sillitin N 85                      standard product for slightly higher requirements for color and dispersion, low compression set
- Sillitin Z 86                      standard product, less wear than Sillitin N products



# Building Profile

## Window and Façade Sealing

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Automotive

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Other Applications

### Advantages:



- low to very low moisture content
- enables high loading of filler and plasticizer
- excellent extrusion properties
- high surface quality
- high tensile modulus
- low compression set

# Building Profile

## Window and Façade Sealing

**HOFFMANN**  
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### Recommended Products:

- Sillitin Z 86                      standard product for black profiles
- Sillikolloid P 87                as Sillitin Z 86 but with best extrusion quality/edge smoothness and collapse resistance of complex profiles even at high extrusion speed, slightly higher tensile strength and tear resistance
- Aktisil VM 56                    as Sillitin Z 86 but with higher tensile strength, higher tensile modulus and lower compression set, higher loading of filler/plasticizer
- Sillitin Z 89                      standard product for color profiles, similar to Sillitin Z 86
- Aktisil VM 56/89                as Sillitin Z 89 but with higher tensile strength, higher tensile modulus and lower compression set, higher loading of filler/plasticizer

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# Building Profile

## Window and Façade Sealing

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### Recommended Products:

- **Silfit Z 91**      standard product for white profiles, avoidance of deposits on dies caused by filler, greater brightness and color neutrality, less moisture content, improved dispersion, lower compression set, very fine cell structure in sponge rubber profiles
  
- **Aktifit VM**      as Silfit Z 91 but with very low moisture content (reduced blistering potential and less need for moisture absorber for pressureless vulcanization), higher tensile strength, higher tensile modulus and lower compression set, higher loading of filler/plasticizer, lower concentration of peroxide possible

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Other Applications

# Expansion Profiles and Sealings for Road/Tunnel

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Other Applications

## Advantages:



- very good extrusion properties
- low moisture content
- low compression set

# Expansion Profiles and Sealings for Road/Tunnel

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Other Applications

## Recommended Products:

- Sillitin N 82                      standard product for non-critical compounds with low requirements
- Sillitin N 85                      standard product for slightly higher requirements for color and dispersion, low compression set
- Sillitin Z 86                      standard product, less wear than Sillitin N products



# Sealing Tape

## Advantages:



- good processing properties
- good calendering properties
- balanced ratio of tensile stress/modulus/tear resistance

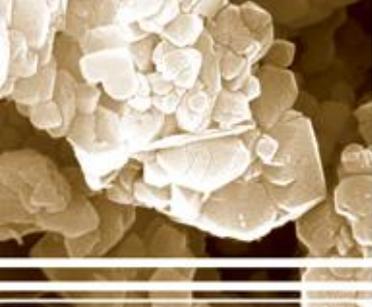
Automotive

Machine and  
Equipment Construction

Cable and Electrical  
Industry

Construction Industry

Other Applications



# Sealing Tape



## Recommended Products:

- Sillitin N 82                      standard product for non-critical compounds with low requirements
- Aktisil PF 777                    for high hydrophobic requirements also in unvulcanized state, low tensile modulus

Automotive

Machine and  
Equipment Construction

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Other Applications



# Silicone Rubber Compounds

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## Advantages:



- good extrusion properties and collapse resistance
- reduced stickiness
- no blooming
- very good oil resistance
- low tension and compression set without post cure
- partial replacement of ATH with Aktisil Q or Silfit Z 91 provides practically the same flame-retardant properties of pure ATH

# Silicone Rubber Compounds

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Other Applications

## Recommended Products:

- Aktisil Q      standard product for peroxide crosslinked silicone rubber compounds, suitable for all types of peroxide, also in high doses of up to 100 phr, as combination partner with ATH up to 30 % of the ATH part for improving the mechanical properties while retaining the flame-retardant properties
- Silfit Z 91      for very bright and white compounds with low requirements, as combination partner with ATH up to 30 % of the ATH part while retaining the flame-retardant properties;  
using 2.5-Bis-(tert. butylperoxy)-2.5-dimethyl-hexane (DBPH) up to 25 phr,  
using Bis-2.4-(dichlorobenzoyl)-peroxide up to 75 phr,  
not suitable for crosslinking with dicumylperoxide



# Latex Threads Latex-Dipped Articles

Automotive

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Other Applications

## Advantages:



- partial substitution of titanium dioxide with Silfit Z 91
- filling of natural rubber latex with Silfit Z 91

## Recommended Products:

- Silfit Z 91
- Sillitin Z 89
- Sillitin V 88
- Sillitin N 85

# Food Contact Materials

## Advantages:



- high purity, in compliance with BfR and FDA regulations
- good mixing and dispersion properties
- high surface quality
- low compression set
- good resistance, especially against acidic media

## Recommended Products:

- Sillitin
- Silfit
- Aktisil
- Aktifit

# Pharmaceutical Packaging

Automotive

Machine and  
Equipment Construction

Cable and Electrical  
Industry

Construction Industry

[Other Applications](#)

## Advantages:



- high purity
- good mixing and dispersion properties
- easy deflashing
- low compression set
- low fragment release and good self-sealing after needle penetration

## Recommended Products:

- Sillitin Z 86
- Aktisil PF 216
- Silfit Z 91
- Aktifit AM
- Aktisil AM
- Aktifit VM
- Aktisil VM 56

# Soles of Shoes

## Advantages:

- good processing properties
- long flow time with short vulcanization time
- easy deflashing



## Recommended Products:

- Silfit Z 91
- Sillitin N 85
- Sillitin Z 86
- Aktifit AM

# Solid Tires and Spinning Cots

Automotive

Machine and  
Equipment Construction

Cable and Electrical  
Industry

Construction Industry

Other Applications

## Advantages:



- good processing properties
- long flow time with short vulcanization time
- easy deflashing
- low rolling resistance
- low compression set

## Recommended Products:

- Sillitin N 85
- Sillitin Z 86
- Aktisil PF 216

# Thank you very much!



HOFFMANN MINERAL GmbH • P.O.Box 14 60 • D-86619 Neuburg (Donau)  
Phone +49 (0) 8431-53-0 • Fax +49 (0) 8431-53-3 30  
Internet: [www.hoffmann-mineral.com](http://www.hoffmann-mineral.com) • e-Mail: [info@hoffmann-mineral.com](mailto:info@hoffmann-mineral.com)

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