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8PQ9132-0AA18	Dichtmasse silikonfrei / sealant silicone free	Für IP42; IP43; IP54 Dachblech für Schienenkanal; Türdichtung for IP42; IP43; IP54 top plate for busbar duct; door protection	DEBRATEC Profi Klebt transparent	7
8PQ9113-8AA66	Terostat 2750	Insulation of busbars with Terostat protective tape	Terostat 2750	7
8PQ9104-2AA30; 8PQ9115-3AA34; 8PQ9123-3AA23	heat shrink tube		Insulation tube (polyetherurethan)	7
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tape / sealant / insulation material

New: NITTO EE 1010 / Old: EPDM-TT/N22

Number	Description	Product Name
8PQ9104-0AA85	Sealing strip EPDM-TT 4mmx10mm	NITTO EE 1010 / EPDM-TT/N22
8PQ9104-0AA86	Sealing strip EPDM-TT 4mmx20mm	NITTO EE 1010 / EPDM-TT/N22

NITTO EE 1010 / EPDM-TT/N22 is a semi-closed cell EPDM-foam with a double-coated acrylic-based adhesive.

TECHNICAL DATASHEET (PANA Schaumstoff GmbH)

Physical Properties	Norm	Unit	Set value
Density	ISO 845	kg/m ³	95
Elongation	ISO 1798	%	430
Tensile Strength	ISO 1798	kPa	90
Compression load (50 %)	ISO 844	kPa	5
Water Absorption	ISO 2896	%	3,1
Flammability	FMVSS 302		pass
Weather ability	Pana intern		excellent
Adhesion on BA steel	Pana intern	cN/20 mm	> 700
Creep on BA steel	Pana intern	mm/3h	< 5
Temperature range	Pana intern	°C	-40 / +135
Shore hardness		Shore A	< 10

NEOPRENE

Number	Description	Product Name
8PQ9123-0AA75	NEOPRENE 15mmx4mm EMKA 1016-65	NEOPRENE 15x4mm EMKA 1016-65

TECHNICAL DATASHEET

Expanded rubber material no. IS 212100
(EMKA Beschlagteile GmbH & Co. KG)

Physical Properties	Norm	Unit	Set value
Base			CR, closed-cell
Color			black
Bulk density		kg/m ³	150 - 200
Compressive hardness 25%	ASTM D 1056	kPa	35 – 65 (Ø 45)
Shore hardness		Shore 00	38 - 55
Water absorption	ASTM D 1056	%	≤ 5 (Ø 1,1)
Elongation at break	DIN 53571	%	> 100 (Ø 134)
Linear shrinking 22h / 70°C		%	< 7 (Ø 4)
Pressure permanent set 50% / 22h / 23°C	ASTM D 1056	%	≤ 25 (Ø 18,7)
Tensile strength	DIN 53571	kPa	> 500 (Ø 780)
Temperature range		°C	-40 / +120 (short-term up to +130)

Stability

Ozone	Oil/fuel	Solvent	Acid/alkali	Ageing
Good (200pphm/30°C/48h; no cracks)	Good	limited	Good	Good

Special characteristics

In case of contact with copper or silver: corrosive.

Varnish indifference: staining.

Fulfills the standards

Fire behavior according to MVSS 302: burning rate <100 mm/min.

Fire behavior according to UL 94 HF1.

TECHNICAL DATASHEET

Adhesive material no. IS 345510
(EMKA Beschlagteile GmbH & Co. KG)

Physical Properties	Norm	Unit	Set value
Base			Synthetic resin
Backing material			Glass-fibre scrim
Covering			Paper blue, green
Adhesive tape thickness	ATM 7	N/25mm	0,19
Adhesive strength	ATM 1, PSTC 1	N/25mm	62
Shearing strength static 2500g/25mmx25mm	ATM 2, FINAT 8 PSTC 7	ks	55
Temperature range		°C	-40 / +65 (short-term up to +70)

Special characteristics

Dimensional stability
Excellent initial adhesion on a great number of substrates

Application

Applicable for porous surfaces
Bonding on uneven surface e.g. staining plastics and metals

3M polyester 7905

Number	Description	Product Name
8PQ9136-5AA31	sealing strip 30mm 3M Polyester film 7905	3M Polyester film 7905

TECHNICAL DATASHEET

(3M Deutschland GmbH)

Product	Film/ thickness in mm	Adhesive/ thickness in mm	Protective paper thickness in mm (g/m ²)	Protective paper	Color
7905 transparent glossy	0,05	0,046	0,17 (147)	climate-proof Paper	transparent glossy *

Physical Properties	Norm	Unit	Set value
Thermo stability (glued on Aluminum)		°C	- 40 °C up to + 150 °C
Dimensional stability	(tested according to DIN 30646)		Classification no. 02 (shrinking < 0,2 %)
Adhesive			modified acrylate adhesive, serial 350, applicable for difficult grounds like polyethylene, polypropylene, powder coating and slightly oily grounds
Minimal adhesive temperature			+ 4 °C
Adhesive strength		N/25 mm	25

The films are resistant against the mineral oils and greases, fuels, aliphatic solvents, slow acids, salts and alkali.

Resistance against climatic stress

SFW 2,0 S DIN 50018

Stress 2 cycles: no transformation

Film adheres on stainless steel, tested at 72 h storage in standard climate conditions 23/50, DIN 50014.

Parts with special contour:

part number	dimension	material
8PQ9115-7AA56	width=50mm; length=508mm	3M Polyester film 7905
8PQ9101-2AA36	special contour	3M Polyester film 7905
8PQ9101-2AA37	special contour	3M Polyester film 7905

tape / sealant / insulation material

Tesaband® 4657

Number	Description	Product Name
8PQ9101-8AA82	insulating strip DIN40631-0,3X19-W90-GR	Tesaband® 4657

High-temperature resistant special fiber ribbon, Tesa® 4657 is a high grade acrylic coated cloth tape. It is based on a 145 mesh woven cotton fabric and a thermosetting natural rubber adhesive.

TECHNICAL DATASHEET (Tesa SE)

Thickness	290 µm
Adhesion to steel	4,6 N/cm
Type of adhesive	thermosetting natural rubber
Mesh	145 Mesh
Elongation at break	7%
Tensile strength	100 N/cm
Temperature resistance	180 °C (30 Min.)
Backing material	acrylic-coated cloth

Abrasion resistance	++
Easy to write on	yes
Easy to remove	yes
Straight tear edges	++
Hand tearability	++
Suitable for die cutting	yes
Water resistance	+
Certified according to	all major OEMs

Evaluation across relevant Tesa assortment: ++ very good, + good, o medium, - low

EPDM 9x4 with 3M TYP 5339

Number	Description	Product Name
8PQ9110-5AA51	sealing strip 9mmx4mm 3M type 5339	??? / 3M TYP 5339

TECHNICAL DATASHEET 3M TYP 5339 (3M Deutschland GmbH)

Core	Visco-elastic Acrylic Foam, high density (840 kg/m ³)
Color	dark grey
Product Thickness:	1.1 mm ± 0.1 mm
Adhesive to rubber (non-liner side)	E1 heat-activatable adhesive
Adhesive to paint (liner side)	AR7 acrylate adhesive with high initial tack and high ultimate bond strength
Liner	H - orange polyethylene foil high release for application to EPDM
Shelf life	- Planetary rolls with polyethylene foils 24 month - Level wound rolls 12 month Up to 12 months from date of delivery when stored in unopened original cartons at +4°C to +38°C and 0 - 95 % relative humidity
Temperature range	From -40°C up to +90°C, short-term 120°C (both data are load-dependent)

TECHNICAL DATASHEET Sealing strip (Schieffer GmbH & Co. KG)

Physical Properties	Norm	Set value
Density	DIN 53479	0,430 g/cm ³
Temperature range		- 35 °C / + 110 °C
color		black
Water resistance		good
Ozon resistance		good
Weatherability		very good
Compression set (22h/23°C)	ASTM D 1056	max. 20%

Cellular polyethylene type 930+ adhesive type 1

Number	Description	Product Name
8PQ9101-8AA44	foamed material strip 20mmx20mm	Cellular polyethylene type 930 + adhesive type 1

TECHNICAL DATASHEET

Cellular polyethylene type 930
(Kautschuk- und Kunststoff-Teile GmbH)

Physical Properties		Norm	Unit	Set value
Density		53420	kg/m ³	33
Tensile strength		53571	N/mm ²	
	longitudinal			0,45
	transverse			0,30
Elongation		53571	%	
	longitudinal			145
	transverse			115
Compression hardness		53577	kPa	
	compression 30 %			40
	compression 50 %			85
	compression 70 %			190
Compression set 22 h load 23°C (296 K)		53572	%	
	compression 25% 1/2h after relieving			15
	compression 25% 24h after relieving			4
	compression 50% 1/2h after relieving			42
	compression 50% 24h after relieving			20
Thermal conductivity at =°C (273 K)		52612	W/mK	0,035
Temperature resistance	internal		°C	-80/+100
Water absorption		53428	Vol.-%	
	after 7 days			0,5
	after 28 days			0,8
Water vapor permeability (5mm)		53122	g/m ² . 24h	0,72
Water vapor diffusion factor		52615	μ	2500

TECHNICAL DATASHEET

Adhesive type I
(Kautschuk- und Kunststoff-Teile GmbH)

Pure acrylate, with good initial adhesion and very good final adhesion, which strengthens during the course of time.
Very good UV resistance and ageing resistance.

Physical Properties	Set value
Backing material	not applicable, because transfer tape
Interliner	Release paper, yellow, 90 g/m ²
Total strength	0,03mm
Adhesive strength (AFERA 4001)	14 N /25mm
Adhesive weight	30 g /m ²
Temperature resistance	- 40. C up to ca. +120. C (short-term up to +200.C)

tape / sealant / insulation material

DuploCOLL® 5016

Number	Description	Product Name
8PQ9101-2AA31	PUR- foam strip double sided 30mmx0,4mm	DuploCOLL® 5016

Double-sided pressure sensitive mounting tape with modified acrylic adhesive and a compressible foam carrier.

TECHNICAL DATASHEET

(Jäger Gummi und Kunststoff GmbH)

Product	Name	color	Depth mm
Liner	Silicon paper	yellow	approx. 0,08
Adhesive closed side	Modified acrylate	transparent	
Backing material	Polyethylene foam	black	approx. 0,45
Adhesive open side	Modified acrylate	transparent	

Physical Properties		Unit	Set value
Temperature range		°C	- 40 °C up to + 90 °C
Peel strength	Peel strength according to DIN EN 1939 after 24h storage at room temperature on varnish	N/mm	39N/25mm
	Peel strength according to DIN EN 1939, edition 1996, at + 23 °C +/- 2 °C	N/mm	45N/25mm
Shear strength	According to DIN EN 1943, edition 1996, at + 23 °C +/- 2 °C		40N/625mm ²
Resistance against plasticizers	Peel strength on steel according to DIN EN 1939 after 7 days storage at 70°C	N/mm	13N/25mm
Hydrolysis resistance on steel	Peel strength according to DIN EN 1939 after 7 days storage at 38°C, 100% relative humidity	N/mm	38N/25mm
Ageing resistance	Dynamic shear strength after 4h storage at room temperature on varnish	N/mm ²	546N/375mm ²
Foam characteristics:			
Compression hardness	ISO 3386-1	kPa	56 (at 10% compression)
Pressure permanent set	ISO 1856-C	kPa	410 (at 50% compression)
Water absorption	ISO 2896	%	<1
Shore hardness	ASTM D2240		44

Recommended application temperature 18 °C up to + 35 °C

EPDM 1370 / special cross-section + adhesive tape

Number	Description	Product Name
8PQ9131-0AA77	sealing SFD door	different material names

TECHNICAL DATASHEET

(Schieffer GmbH & Co. KG)

Material characteristics: see drawing 8PQ9131-0AA77!

Dichtmasse / sealant DEBRATEC Profi Klebt transparent**TECHNICAL DATASHEET**

(Debratec GmbH)

basis		MS-Polymer
colour		transparent
character	after hardening	elastic joint seal
density		1,01 g/ml
skinning	+23°C / 55% RLF	ca. 10 min
through hardening time	+23°C / 55% RLF	ca. 2mm/ 24h
practical elasticity		± 25%
processing temperature		+5°C to +40°C
temperature resistance	after hardening	-40°C to +90°C
Shore –A - hardness	DIN 53505	38
e modulus 100%	DIN 53504	1,7MPa
tensil strength	DIN 53504	2,2MPa
elongation at break	DIN 53504	250%
storing	+5°C to 25°C cool, dry	12 month (unopened)

Isolierband / protective tape Terostat 2750**TECHNICAL DATASHEET**

(Henkel KGaA)

basis		Butyl rubber
colour		black
vlies		Vlies G 2316/45
processing temperature		+5°C to +40°C
temperature resistance		-30°C to +80°C / short term 200°C
elongation longitudinal		dimensionally stable
Elongation cross direction		10% elastic
Storage temperature	+15°C to 25°C cool, dry	24 month

Wärmeschrumpfschlauch / heat shrink tube

number	Material specification to drawing (material)	Semi-finished produkt to be used	Diameter inside [mm]
8PQ9104-2AA30	ADM55-25,4 black	Insulation tube (polyetherurethan) ADM-55 De Mira / (TCN20 HellermannTyton)	25,4
8PQ9115-3AA34	ADM55-50,8 black		50,8
8PQ9123-3AA23	ADM55-38,1 black		38,1

TECHNICAL DATASHEET

(DaMira)

Eigenschaften / Characterictics	Einheit / Unit	Werte / Values
Zugfestigkeit / Tensile strength	N/mm ²	14.0 Mpa
Reißdehnung / Elongation at break (ASTM D 638)	%	400
Reißdehnung / Elongation at break (158°C, 168 Std; ASTM D 2671)	%	350
Längsschrumpfverhalten / longitudinal shrinkage properties UL 224	%	+/- 5
Durchschlagfestigkeit / Electric strenght IEC 243	KV/mm	20
Spez. Durchgangswiderstand / Volume resistivity IEC 93	Ohm cm	1014
Dauer temperatur / Durable service temperature	°C	-55°C bis +125° C
Brandverhalten VW-1/ Flammability VW-1	-	bestanden / passed
Kupfer Korrossion / Copper corrosion (120°C,168 Std.; ASTM D 2671)	-	bestanden / passed

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