

# TapeLift Media

TapeLift Pad / TapeLift Stripe / TapeLift ParticleTrap



TapeLift media is a material used to lift off of particles from surfaces and to act as particles traps, according to ISO 14644 -9, ISO 14644 -13, ISO 14644 -17;VDI 2083 -9,VDI 2083 -12; ISO 16322;VDA 19 -1,VDA 19 -2; IEST-STD-1246; ECSS-Q-ST-70-50C and in general for particle sampling and for the cleaning of surfaces.

## 1. Characteristics

The TapeLift Product family comprises a range of solutions, including the TapeLift Pad, the TapeLift Stripe, and the TapeLift ParticleTrap - in addition to bespoke items made to customer specification. The TapeLift media are optimised for analysis of sampled particles with glancing light in the PartSens 4.0 system. Here a dark and even surface is the optimal condition for precise and reliable analysis.

TapeLift Pads, TapeLift Stripes and TapeLift ParticleTraps are made of the same material. It consists of hydro-carbon compounds of varying length and complexity which build a colloidal matrix. This matrix sits on a flexible carrier. The matrix is non-toxic and contains no silanes and siloxanes, halogenated or other restricted compounds, including PFAS. Analyses detected neither metal atoms and nor heavy metal ions. The matrix is ESD neutral and electrostatic dissipative.

## 2. Lift-off Efficiency

The efficiency of particle collection from the surface is > 98% under laboratory conditions. For new surfaces or for control purposes, the efficiency can be determined quickly and easily using a decay curve in accordance with ISO 16232 and VDA 19.1.

The amount of pressure above a certain lower limit has little effect on the lift efficiency of particles. Pressure should be more than 15N. Recommended are 20 - 25N which can be applied effortlessly with the fingers or with helpers like a rocker or a roller.

Lift-off efficiency is influenced by liquid residues on the surface and by temperatures outside the recommended range. In this case a decay curve is recommended to establish the base line.

## 3. Application

The use of pads or strips eliminates the influence of surface properties such as roughness, colour and geometry on the measurement with grazing light. Scratches, holes or depressions can also be levelled out.

In order to avoid overloading the media with particles, the percentage area covered PAC should be below 3% as a general rule. Recommended is a load below 1,5%.

Standard protocol is to apply the TapeLift media for 3-5 seconds to the surface. Light pressure of 20N is recommended. The matrix has elastic properties, if necessary let the media relax for 20-30 seconds e.g. after strong bending or higher pressure lift-off.

In the case of lift-off sampling the media may be applied several times and counted as one sample.

The TapeLift media are packaged in cleanroom certified bags. The pouch and the removable protective film ensure absolute cleanliness. The blank value before sampling will show 0 particle.

TapeLift Pad, TapeLift Stripe, and TapeLift ParticleTrap are used preferentially with the PartSens 4.0 surface particle counting system. Measurements of Particle Size Distribution, Particle Deposition, SCP, Percentage Area Covered PAC, Particle Fall-Out PFO with standardised conditions are possible. The quick and reliable method facilitates sampling with statistical relevant sample sizes.

For the monitoring of controlled environments the TapeLift ParticleTraps are complemented with trays which protect the particle trap during the active sampling phase and facilitate safe transport.

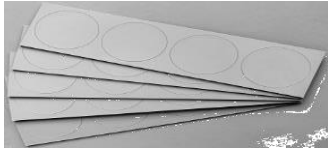





The TapeLift pads may be used to clean delicate surfaces where a dry method is called for, but pressurised air is not possible. The TapeLift pads require no chemicals, wipes or special handling. The tacky matrix surface of the pad lifts particulate matter without liquids or sprays. Size and shape of cleaning pads can be manufactured to customer specifications.

TapeLift Stripes can be combined with the dry suction extraction system C|PS<sup>2</sup> (CleanControlling). A dedicated adapter is attached which enables the use of TapeLift Stripes instead of a laboratory bottle. Particles separated from the airflow by the cyclone separator settle onto the stripe, ready for quick and easy measurement with the PartSens 4.0.

## 4. Specifications

<b>TapeLift Pad</b>	Dimensions	Ø 36 mm
	Measurement Area	2,68 cm <sup>2</sup>
	Packaging Unit	20 pcs
<b>TapeLift Stripe</b>	Dimensions	94 x 28 mm
	Measurement Area	13,10 cm <sup>2</sup> stitched
		13,38 cm <sup>2</sup> unstitched
	Packaging Unit	5 pcs
<b>TapeLift ParticleTrap</b>	Dimensions	94 x 28 mm
	Measurement Area	13,38 cm <sup>2</sup> unstitched
	Packaging Unit	5 pcs
<b>Material</b>	Matrix (on Carrier)	Mixture of hydrocarbon
	Colour	Black (white as custom made)
	Carrier	Polyethylene
	Metal Content	not detectable - GC-MS, LIBS
	Silicone / Siloxane Content	not detectable - GC-MS, LIBS
	Halogenated organic compounds	not detectable - GC-MS, LIBS
	SVHC-Phthalate acc. REACH	below limit
	PFAS	below limit
<b>Blank value</b>	Zero-count	0 (particles)
<b>Electric Resistance</b>	Static dissipative	~ 10 <sup>9</sup> - 10 <sup>10</sup> Ohm
<b>Vacuum Resilience</b>	Low Grade Vacuum	~ 50 Pascal
<b>Packaging</b>	Sealed Pouches	Cleanroom compliant
<b>Expiry date</b>	Indicated on Pouch	at least 18 month at dispatch
<b>Storage conditions</b>	Temperature	10° to 20°C ( peak <25°C)
	Humidity	60% - 70% relative humidity (non-condensing)
	Sunlight	Avoid direct exposure
<b>Sampling</b>	Recommended pressure	20 N
	Pressure range	15 - 50 N
	Recommended application time	3 - 5 s
	Maximal bending angle	- 80° to + 90°
	Lift-off Efficiency (>20µm Feret_max)	> 96%
	Lift-off Repeats	5 x, max. 10 x

## 5. TapeLift Media

Media &	Accessories	
TapeLift Pad	Easy handling Lift-off media Ø 36mm  1 PU = 20 TapeLift Pads	
TapeLift Stripe	5-fold extended sampling area.  1 PU = 5 Particle Trap-Strips	
TapeLift ParticleTrap	Labelling field on the back side  PU = 5 ParticleTraps  Top and bottom view	
Particle Trap Tray	Small Dimensions: 42 x 110mm  Stackable	
Particle Trap Tray	Large Dimensions: 70 x 107mm  Stackable	
Archiving Solution	for TapeLift Pads, -Stripes & -ParticleTraps Dimensions: 215 x 160 mm Capacity: max. 16 TapeLift Pads or max. 8 TapeLift Stripes or ParticleTraps Packaging Unit: 1 Stackable	
Adapter for CP S <sup>2</sup> Suction Extraction System	Deposits the extracted particles directly on TapeLift Stripe  (CP S <sup>2</sup> by CleanControlling, Germany)	