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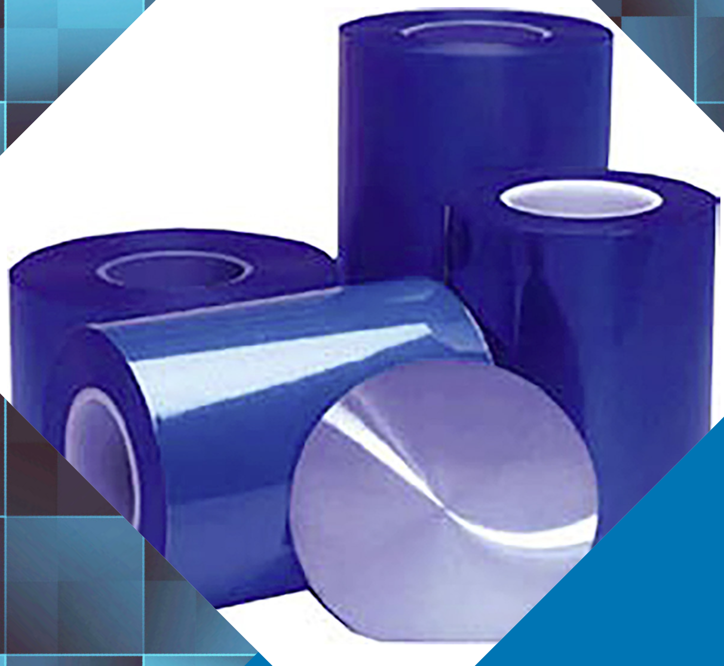

Dicing Tape

Ultron

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Standard or so called „blue tape“ serves as the universal tape in wafer dicing. Wafer dicing is one of the fundamental production steps, which not only has to separate the dies, but also has to keep the chips within tight tolerances regarding dimensions, edges, orientation and position. Dicing on tape has proven to be most successful in this regard.

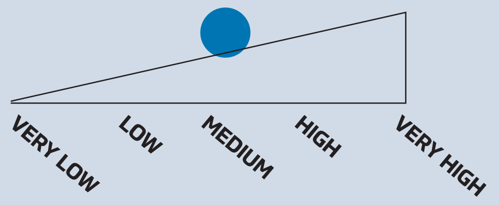
The 1000 Series Adhesive Plastic Film for semiconductor processes especially dicing are available in various widths, thicknesses, adhesive strengths, and base materials

Standard Blue Tape

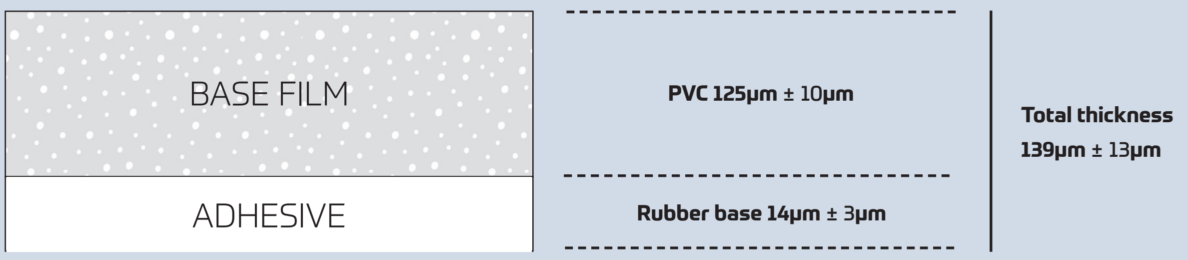
Dicing Tape ULTRON 1003R:

1003R is a silicon release agent and DEHP free (<1%) dicing tape for direct lamination to the wafer backside. The adhesive force of this PVC-based tape with a rubber-based adhesive is medium. The film is supplied in rolls without backing layer.

ADHESION:



FILM CONSTRUCTION:



SPECIFICATION:

Type:	ULTRON 1003R
Base film material:	PVC (polyvinyl chloride)
Base film thickness:	125 µm
Color:	Blue
Adhesive:	Rubber base
Adhesive thickness:	14 µm
Adhesion (to Si):	370 g / 25 mm
Unwinding force:	max. 250 g / 25 mm

	Horizontal	**Vertical**
Elongation:	**min.** 200 %	min. 240 %
Tensile Strength:	8.0 kg / 25 mm	9.7 kg / 25 mm

Test material	30min	1hr	2hr	4hr	8hr	24hr
Si	370	390	400	460	500	550

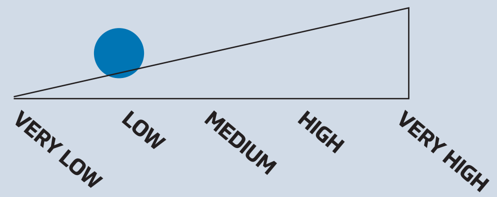
Figures in g / 25mm, 180° peeling angle @ 300 mm / min

Last update: 06.12.2023

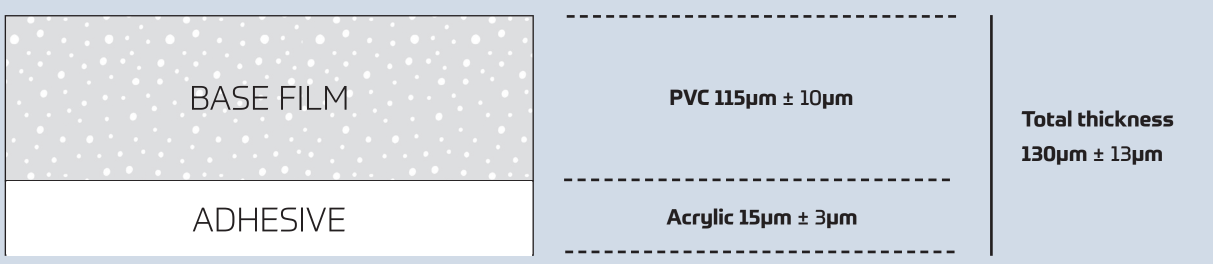
Dicing Tape ULTRON 1004R:

1004R is a silicon release agent free dicing tape for direct lamination to the wafer backside. The adhesive force of this PVC-based tape is low. The film is supplied in rolls without backing layer.

ADHESION:



FILM CONSTRUCTION:



SPECIFICATION:

Type:	ULTRON 1004R
Base film material:	PVC (polyvinyl chloride)
Base film thickness:	115 µm
Color:	Blue
Adhesive:	Acrylic
Adhesive thickness:	15 µm
Adhesion (to Si):	170 g / 25 mm
Unwinding force:	max. 300 g / 25 mm

	Horizontal	**Vertical**
Elongation:	**min.** 200 %	min. 240 %
Tensile Strength:	7.5 kg / 25 mm	9.0 kg / 25 mm

Test material	30min	1hr	2hr	4hr	8hr	24hr
Si	170	170	180	200	210	250

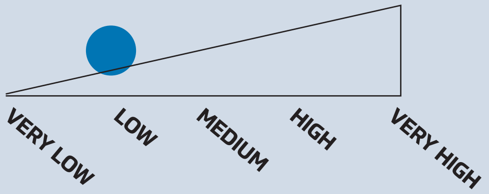
Figures in g / 25mm, 180° peeling angle @ 300 mm / min

Last update: 06.12.2023

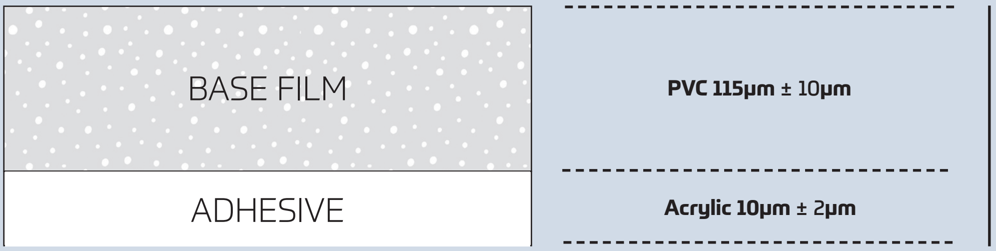
Dicing Tape
ULTRON 1005R:

1005R is a silicon release agent free dicing tape for direct lamination to the wafer backside. The adhesive force of this PVC-based tape is low. The film is supplied in rolls without backing layer.

ADHESION:



FILM CONSTRUCTION:



Total thickness
125µm ± 12µm

SPECIFICATION:

Type:	ULTRON 1005R
Base film material:	PVC (polyvinyl chloride)
Base film thickness:	115 µm
Color:	Blue
Adhesive:	Acrylic
Adhesive thickness:	10 µm
Adhesion (to Si):	100 g / 25 mm
Unwinding force:	max. 150 g / 25 mm

	Horizontal	**Vertical**
Elongation:	**min.** 200 %	min. 240 %
Tensile Strength:	7.5 kg / 25 mm	9.0 kg / 25 mm

Test material	30min	1hr	2hr	4hr	8hr	24hr
Si	100	105	110	115	135	150

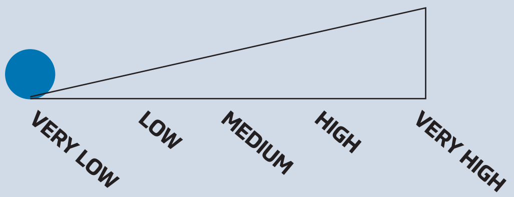
Figures in g / 25mm, 180° peeling angle @ 300 mm / min

Last update: 06.12.2023

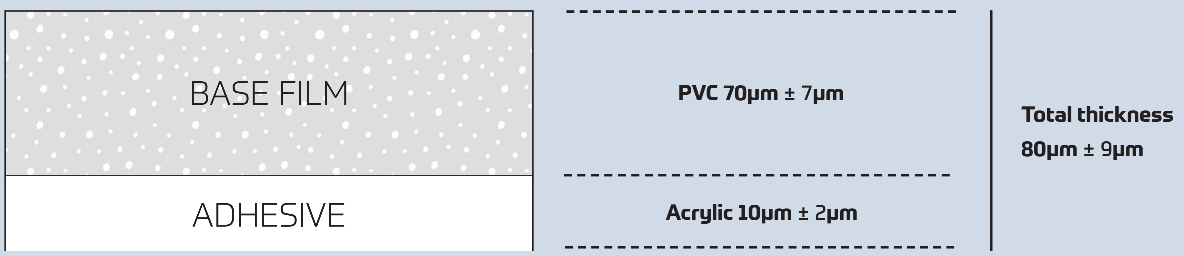
Dicing Tape ULTRON 1007R:

1007R is a silicon release agent free dicing tape for direct lamination to the wafer backside. The adhesive force of this PVC-based tape is very low. The film is supplied in rolls without backing layer.

ADHESION:



FILM CONSTRUCTION:



SPECIFICATION:

Type:	ULTRON 1007R
Base film material:	PVC (polyvinyl chloride)
Base film thickness:	70 µm
Color:	Blue
Adhesive:	Acrylic
Adhesive thickness:	10 µm
Adhesion (to Si):	76 g / 25 mm
Unwinding force:	max. 150 g / 25 mm

	Horizontal	**Vertical**
Elongation:	**min.** 160 %	min. 200 %
Tensile Strength:	3.0 kg / 25 mm	4.0 kg / 25 mm

Test material	30min	1hr	2hr	4hr	8hr	24hr
Si	76	79	82	101	115	130

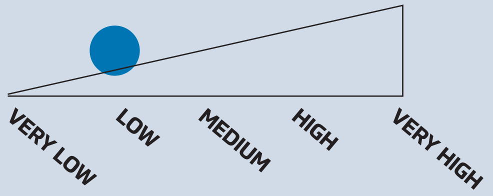
Figures in g / 25mm, 180° peeling angle @ 300 mm / min

Last update: 06.12.2023

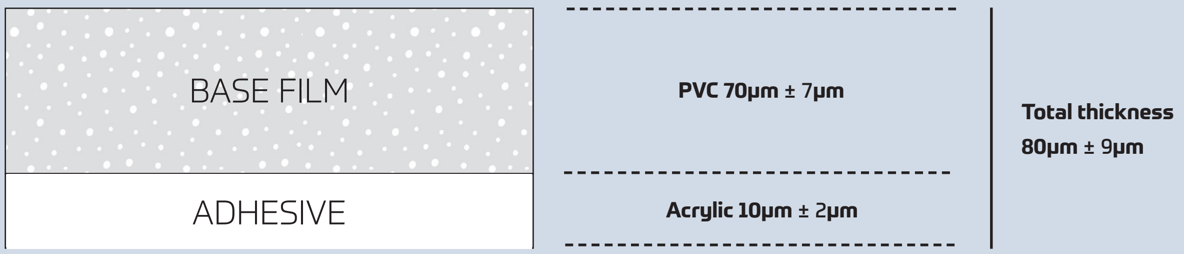
Dicing Tape ULTRON 1008R:

1008R is a silicon release agent free dicing tape for direct lamination to the wafer backside. The adhesive force of this PVC-based tape is low. The film is supplied in rolls without backing layer.

ADHESION:



FILM CONSTRUCTION:



SPECIFICATION:

Type:	ULTRON 1008R
Base film material:	PVC (polyvinyl chloride)
Base film thickness:	70 µm
Color:	Blue
Adhesive:	Acrylic
Adhesive thickness:	10 µm
Adhesion (to Si):	100 g / 25 mm
Unwinding force:	max. 150 g / 25 mm

	Horizontal	**Vertical**
Elongation:	**min.** 160 %	min. 200 %
Tensile Strength:	3.0 kg / 25 mm	4.0 kg / 25 mm

Test material	30min	1hr	2hr	4hr	8hr	24hr
Si	100	103	110	120	135	160

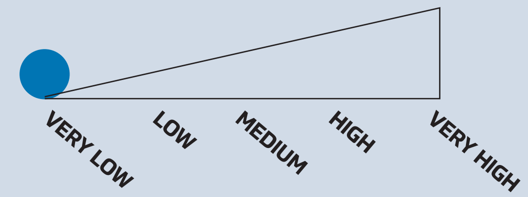
Figures in g / 25mm, 180° peeling angle @ 300 mm / min

Last update: 06.12.2023

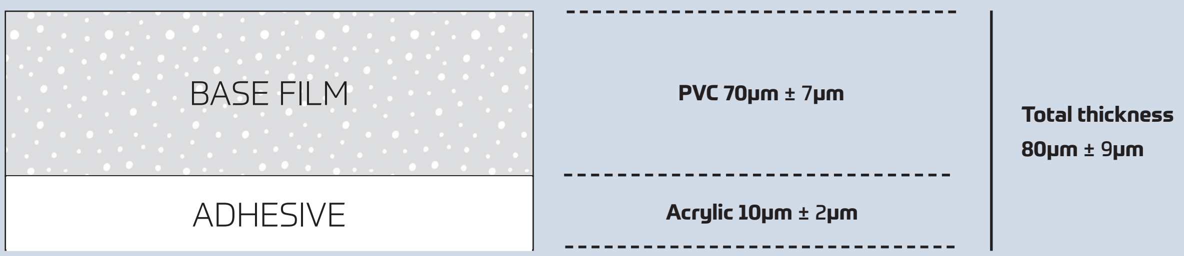
Dicing Tape ULTRON 1009R:

1009R is a silicon release agent free dicing tape for direct lamination to the wafer backside. The adhesive force of this PVC-based tape is very low. The film is supplied in rolls without backing layer.

ADHESION:



FILM CONSTRUCTION:



SPECIFICATION:

Type:	ULTRON 1009R
Base film material:	PVC (polyvinyl chloride)
Base film thickness:	70 µm
Color:	Blue
Adhesive:	Acrylic
Adhesive thickness:	10 µm
Adhesion (to Si):	34 g / 25 mm
Unwinding force:	max. 150 g / 25 mm

	Horizontal	**Vertical**
Elongation:	**min.** 160 %	min. 200 %
Tensile Strength:	3.0 kg / 25 mm	4.0 kg / 25 mm

Test material	30min	1hr	2hr	4hr	8hr	24hr
Si	34	35	49	65	67	85

Figures in g / 25mm, 180° peeling angle @ 300 mm / min

Last update: 06.12.2023

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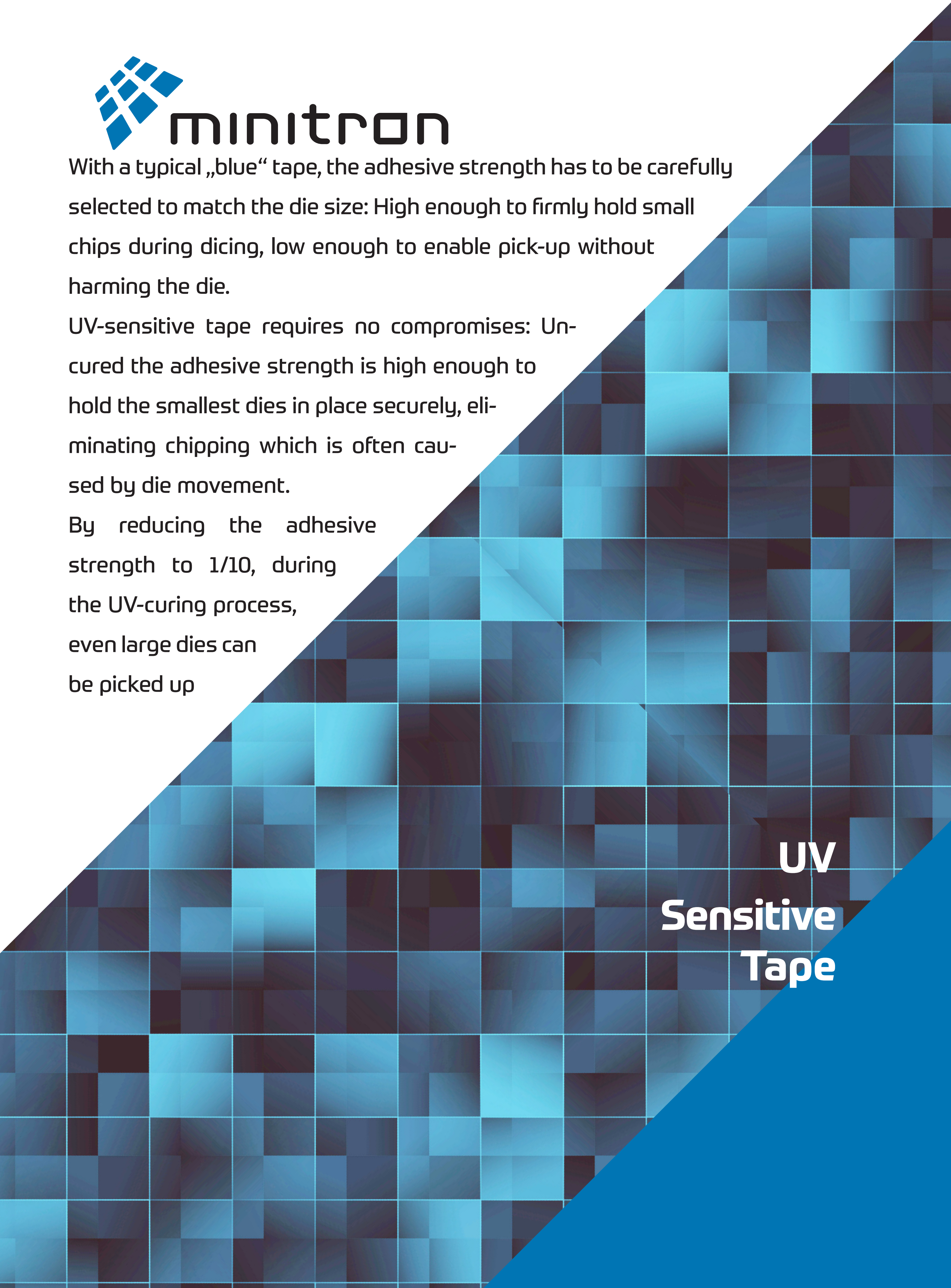
With a typical „blue“ tape, the adhesive strength has to be carefully selected to match the die size: High enough to firmly hold small chips during dicing, low enough to enable pick-up without harming the die.

UV-sensitive tape requires no compromises: Uncured the adhesive strength is high enough to hold the smallest dies in place securely, eliminating chipping which is often caused by die movement.

By reducing the adhesive strength to 1/10, during the UV-curing process, even large dies can be picked up

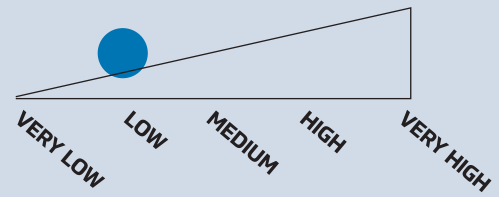


UV Sensitive Tape

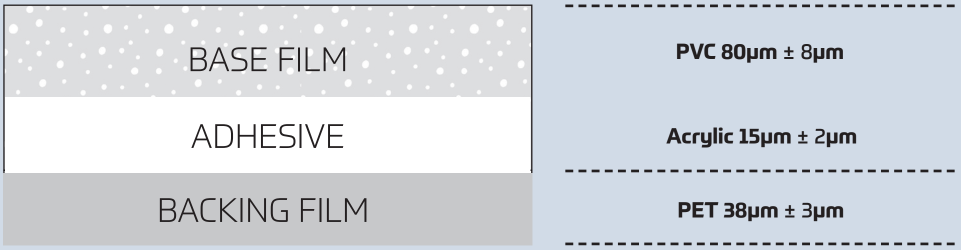
Dicing Tape ULTRON 1020R:

1020R is the most versatile UV-sensitive dicing tape from Ultron Systems. Its main application is the dicing of silicon wafers.

ADHESION:



FILM CONSTRUCTION:



PVC 80µm ± 8µm

Acrylic 15µm ± 2µm

PET 38µm ± 3µm

Total thickness
95µm ± 10µm

SPECIFICATION:

Type:	ULTRON 1020R
Base film material:	PVC (polyvinyl chloride)
Base film thickness:	80 µm
Backing film material:	PET (polyethylene terephthalate)
Backing film thickness:	38 µm
Color:	Transparent, clear
Adhesive:	Acrylic UV-sensitive
Adhesive thickness:	15 µm
Adhesion before UV-curing (to Si):	260 g / 25 mm
Adhesion after UV-curing (to Si):	20 g / 25 mm
Unwinding force:	25 g / 25 mm

	Horizontal	**Vertical**
Elongation:	300 %	260 %
Tensile Strength:	2.5 kg / 25 mm	3.0 kg / 25 mm

Test material	30min	1hr	2hr	4hr	8hr	24hr
Si (before UV)	260	260	255	230	220	220
SI (after UV)	20	25	25	25	25	25

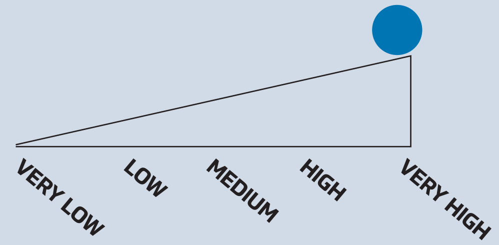
Figures in g / 25mm, 180° peeling angle @ 300 mm / min, UV source: 300mJ/cm²

Last update: 06.12.2023

Dicing Tape
ULTRON 1027R:

UV-tape with very high adhesion for applications like BGA singulation or dicing ceramics. The very high initial adhesion reduces chipping by preventing die movement. Due to the low adhesion after UV-curing sensitive substrates can be picked up without damage.

ADHESION:



FILM CONSTRUCTION:

Layer	Thickness
BASE FILM	**PO 150µm ± 15µm**
ADHESIVE	**Acrylic 25µm ± 5µm**
BACKING FILM	**PET 38µm ± 3µm**

Total thickness
175µm ± 20µm

SPECIFICATION:

Type:	ULTRON 1027R
Base film material:	PO (polyolefin)
DEHP:	<1%
Base film thickness:	150 µm
Backing film material:	PET (polyethylene terephthalate)
Backing film thickness:	38 µm
Color:	Transparent, clear
Adhesive:	Acrylic UV-sensitive
Adhesive thickness:	25 µm
Adhesion before UV-curing (to Si):	2080 g / 25 mm
Adhesion after UV-curing (to Si):	28 g / 25 mm
Unwinding force:	25 g / 25 mm

	Horizontal	**Vertical**
Elongation:	260 %	400 %
Tensile Strength:	1.8 kg / 25 mm	3.0 kg / 25 mm

Test material	30min	1hr	2hr	4hr	8hr	24hr
Si (before UV)	2080	2220	2180	2050	2020	2160
SI (after UV)	28	28	28	28	30	33

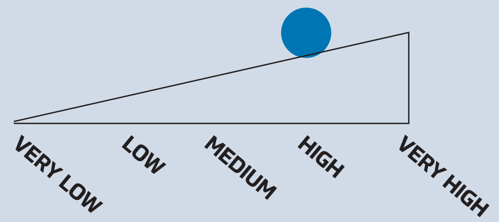
Figures in g / 25mm, 180° peeling angle @ 300 mm / min, UV source: 300mJ/cm²

Last update: 19.12.2023

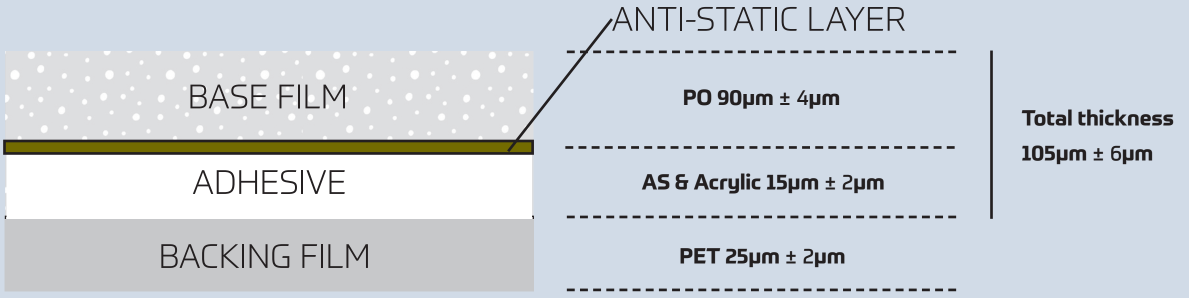
Dicing Tape
ULTRON 1042R-B:

UV-sensitive tape with anti-static layer.

ADHESION:



FILM CONSTRUCTION:



SPECIFICATION:

Type:	ULTRON 1042R-B
Base film material:	PO (polyolefin)
DEHP:	<1%
Base film thickness:	90 μm
Backing film material:	PET (polyethylene terephthalate)
Backing film thickness:	25 μm
Color:	Clear
Adhesive:	Acrylic UV-sensitive, anti-static
Adhesive thickness:	15 μm
Adhesion before UV-curing (to SS):	730 g / 25 mm
Adhesion after UV-curing (to SS):	20 g / 25 mm
Unwinding force:	25 g / 25 mm

	Horizontal	**Vertical**
Elongation:	700 %	600 %
Tensile Strength:	**400 kgf / cm²**	**400 kgf / cm²**

Test material	30min	2hr	4hr	8hr	24hr
SS (before UV)	730	750	820	830	870
SS (after UV)	20	25	25	25	30

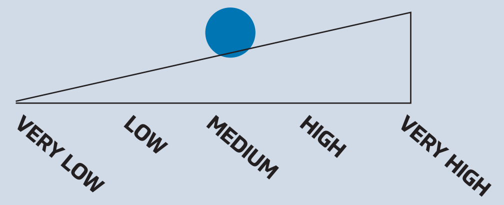
Figures in g / 25mm, 180° peeling angle @ 300 mm / min, UV source: 300mJ/cm²

Last update: 12.09.2024

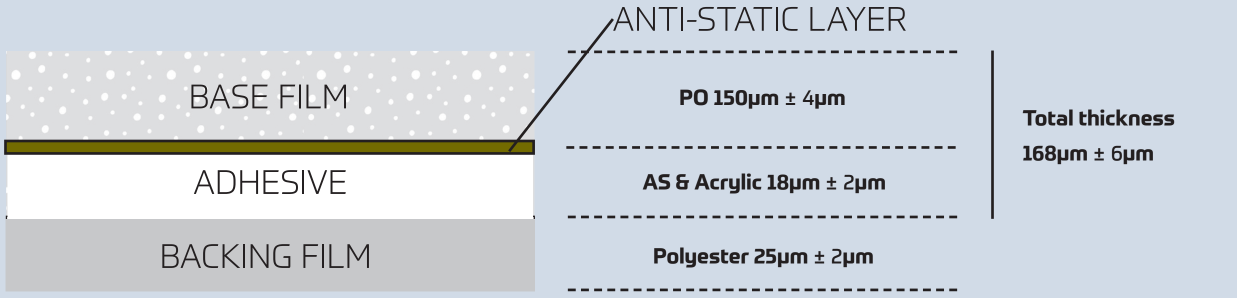
Dicing Tape ULTRON 1043R:

DEHP-free (<1%) UV-tape with anti-static layer.

ADHESION:



FILM CONSTRUCTION:



SPECIFICATION:

Type:	ULTRON 1043R
Base film material:	PO (polyolefin)
DEHP:	<1%
Base film thickness:	150 µm
Backing film material:	Polyester
Backing film thickness:	25 µm
Color:	Transparent, clear
Adhesive:	Acrylic UV-sensitive, anti-static
Adhesive thickness:	18 µm
Adhesion before UV-curing (to Si):	350 g / 25 mm
Adhesion after UV-curing (to Si):	14 g / 25 mm
Unwinding force:	25 g / 25 mm

	Horizontal	**Vertical**
Elongation:	820 %	680 %
Tensile Strength:	8.0 kg / 25 mm	8.8 kg / 25 mm

Test material	30min	1hr	2hr	4hr	8hr	12hr	24hr
Si (before UV)	350	380	550	560	580	600	600
SI (after UV)	14	14	14	15	15	15	16

Figures in g / 25mm, 180° peeling angle @ 300 mm / min, UV source: 300mJ/cm²

Last update: 20.12.2023

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