

# V00131

## TUFFlex Pre-stretched Handwrap

7.6 Micron / 30 Gauge / .30 Mil

*Not intended as limiting specifications*

### CHARACTERISTICS

### VALUES

Manufacturing Process	Pre-stretch Hand Film
Thickness (nominal)	7.6 Micron / 30 Gauge / 0.30 Mil
Film Width (inches)	15"
Length (feet)	2,000'
Net Weight / Roll (lbs. – nominal)	3.6 lbs.
Roll Diameter (O.D., inches)	5"
Core I.D.	3"

### TESTS

### METHODS

### VALUES

Ultimate Tensile MD (PSI)	ASTM D 882	N/A
Ultimate Tensile TD (PSI)	ASTM D 882	N/A
Elongation MD (%)	ASTM D 882	N/A
Elongation TD (%)	ASTM D 882	N/A
Tear Resistance MD (grams)	ASTM D 1922	130
Tear Resistance TD (grams)	ASTM D 1922	295
Puncture Resistance (in-lbs.)	Internal	6.4
Ultimate Prestretch (%)	Internal	N/A
Cling (in to out, grams)	Mfg. method	130 to 150



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# V00199

## TUFFlex Pre-Stretched Handwrap

7.4 Micron / 29 Gauge / 0.29 Mil

*Not intended as limiting specifications*

### CHARACTERISTICS

### VALUES

Manufacturing Process	Blown
Thickness (nominal)	7.4 Micron / 29 Gauge / 0.29 Mil
Color	Clear
Film Width (inches)	15.5"
Length (feet)	2000'
Net Weight / Roll (lbs. – nominal)	3.7 lb
Roll Diameter (O.D., inches)	6"
Core I.D.	3"

### TESTS

### METHODS

### VALUES

Haze	ASTM D1003	2 %
Gloss	ASTM D2457	89%
Tensile Strength at Break (MD)	ASTM D882	4200 psi
Tensile Strength at Break (TD)	ASTM D882	3100 psi
Elongation at Break (MD)	ASTM D882	340%
Elongation at Break (TD)	ASTM D882	530%
Elmendorf Tear Strength (MD)	ASTM D1922	200 g
Elmendorf Tear Strength (TD)	ASTM D1922	490 g
Cling	ASTM D5458	130 g

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# V00251

## TUFFflex Pre-stretched Handwrap

7.4 Micron / 29 Gauge / 0.29 Mil

*Not intended as limiting specifications*

CHARACTERISTICS	VALUES
Manufacturing Process	Blown
Thickness (nominal)	7.4 Micron / 29 Gauge / 0.29 Mil
Film Width (inches)	12.5"
Length (feet)	2000'
Net Weight / Roll (lbs. – nominal)	2.9 lb
Roll Diameter (O.D., inches)	6.3"
Core I.D.	3"

TESTS	METHODS	VALUES
Ultimate Tensile MD (PSI)	ASTM D 882	16000 PSI
Ultimate Tensile TD (PSI)	ASTM D 882	3300 PSI
Elongation MD (%)	ASTM D 882	150%
Elongation TD (%)	ASTM D 882	730%
Tear Resistance MD (grams)	ASTM D 1922	140 G/MIL
Tear Resistance TD (grams)	ASTM D 1922	980 G/MIL
Puncture Resistance (in-lbs.)	ASTM D 4649	12.1 IN-LBS
Ultimate Prestretch (%)	Mfg. / Highlight	N/A
Cling (in to out, grams)	Mfg. method	150 G/IN

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# V00252

## TUFFflex Pre-stretched Handwrap

7.4 Micron / 29 Gauge / 0.29 Mil

*Not intended as limiting specifications*

### CHARACTERISTICS

### VALUES

Manufacturing Process	Blown
Thickness (nominal)	7.4 Micron / 29 Gauge / 0.29 Mil
Film Width (inches)	15.5"
Length (feet)	2000'
Net Weight / Roll (lbs. – nominal)	3.6 lb
Roll Diameter (O.D., inches)	6.3"
Core I.D.	3"

### TESTS

### METHODS

### VALUES

Ultimate Tensile MD (PSI)	ASTM D 882	16000 PSI
Ultimate Tensile TD (PSI)	ASTM D 882	3300 PSI
Elongation MD (%)	ASTM D 882	150%
Elongation TD (%)	ASTM D 882	730%
Tear Resistance MD (grams)	ASTM D 1922	140 G/MIL
Tear Resistance TD (grams)	ASTM D 1922	980 G/MIL
Puncture Resistance (in-lbs.)	ASTM D 4649	12.1 IN-LBS
Ultimate Prestretch (%)	Mfg. / Highlight	N/A
Cling (in to out, grams)	Mfg. method	150 G/IN



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# V00253

## TUFFlex Pre-stretched Handwrap

8.4 Micron / 33 Gauge / 0.33 Mil

*Not intended as limiting specifications*

### CHARACTERISTICS

### VALUES

Manufacturing Process	Blown
Thickness (nominal)	8.4 Micron / 33 Gauge / 0.33 Mil
Film Width (inches)	15.15"
Length (feet)	1476'
Net Weight / Roll (lbs. – nominal)	3.03 lb
Roll Diameter (O.D., inches)	5.5"
Core I.D.	3"

### TESTS

### METHODS

### VALUES

Ultimate Tensile MD (PSI)	ASTM D 882	15000 PSI
Ultimate Tensile TD (PSI)	ASTM D 882	4000 PSI
Elongation MD (%)	ASTM D 882	180%
Elongation TD (%)	ASTM D 882	690%
Tear Resistance MD (grams)	ASTM D 1922	450 G/MIL
Tear Resistance TD (grams)	ASTM D 1922	980 G/MIL
Puncture Resistance (in-lbs.)	ASTM D 4649	12.5 IN-LBS
Ultimate Prestretch (%)	Mfg. / Highlight	N/A
Cling (in to out, grams)	Mfg. method	150 G/IN



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# V00254

## TUFFflex Pre-stretched Handwrap

8.4 Micron / 33 Gauge / 0.33 Mil

*Not intended as limiting specifications*

### CHARACTERISTICS

### VALUES

Manufacturing Process	Blown
Thickness (nominal)	8.4 Micron / 33 Gauge / 0.33 Mil
Film Width (inches)	15.15"
Length (feet)	2000'
Net Weight / Roll (lbs. – nominal)	4.1 lb
Roll Diameter (O.D., inches)	6.0"
Core I.D.	3"

### TESTS

### METHODS

### VALUES

Ultimate Tensile MD (PSI)	ASTM D 882	15000 PSI
Ultimate Tensile TD (PSI)	ASTM D 882	4000 PSI
Elongation MD (%)	ASTM D 882	180%
Elongation TD (%)	ASTM D 882	690%
Tear Resistance MD (grams)	ASTM D 1922	450 G/MIL
Tear Resistance TD (grams)	ASTM D 1922	980 G/MIL
Puncture Resistance (in-lbs.)	ASTM D 4649	12.5 IN-LBS
Ultimate Prestretch (%)	Mfg. / Highlight	N/A
Cling (in to out, grams)	Mfg. method	150 G/IN



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# V00255

## TUFFflex Pre-stretched Handwrap

8.4 Micron / 33 Gauge / 0.33 Mil

*Not intended as limiting specifications*

### CHARACTERISTICS

### VALUES

Manufacturing Process	Blown
Thickness (nominal)	8.4 Micron / 33 Gauge / 0.33 Mil
Film Width (inches)	17.5"
Length (feet)	1476'
Net Weight / Roll (lbs. – nominal)	3.4 lb
Roll Diameter (O.D., inches)	5.5"
Core I.D.	3"

### TESTS

### METHODS

### VALUES

Ultimate Tensile MD (PSI)	ASTM D 882	15000 PSI
Ultimate Tensile TD (PSI)	ASTM D 882	4000 PSI
Elongation MD (%)	ASTM D 882	180%
Elongation TD (%)	ASTM D 882	690%
Tear Resistance MD (grams)	ASTM D 1922	450 G/MIL
Tear Resistance TD (grams)	ASTM D 1922	980 G/MIL
Puncture Resistance (in-lbs.)	ASTM D 4649	12.5 IN-LBS
Ultimate Prestretch (%)	Mfg. / Highlight	N/A
Cling (in to out, grams)	Mfg. method	150 G/IN



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# V00256

## TUFFflex Pre-stretched Handwrap

9.9 Micron / 39 Gauge / 0.39 Mil

*Not intended as limiting specifications*

### CHARACTERISTICS

### VALUES

Manufacturing Process	Blown
Thickness (nominal)	9.9 Micron / 39 Gauge / 0.39 Mil
Film Width (inches)	15.15"
Length (feet)	1476'
Net Weight / Roll (lbs. – nominal)	3.63 lb
Roll Diameter (O.D., inches)	5.5"
Core I.D.	3"

### TESTS

### METHODS

### VALUES

Ultimate Tensile MD (PSI)	ASTM D 882	13500 PSI
Ultimate Tensile TD (PSI)	ASTM D 882	4200 PSI
Elongation MD (%)	ASTM D 882	190%
Elongation TD (%)	ASTM D 882	730%
Tear Resistance MD (grams)	ASTM D 1922	140 G/MIL
Tear Resistance TD (grams)	ASTM D 1922	980 G/MIL
Puncture Resistance (in-lbs.)	ASTM D 4649	14.4 IN-LBS
Ultimate Prestretch (%)	Mfg. / Highlight	N/A
Cling (in to out, grams)	Mfg. method	150 G/IN



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# V00257

## TUFFflex Pre-stretched Handwrap

9.9 Micron / 39 Gauge / 0.39 Mil

*Not intended as limiting specifications*

### CHARACTERISTICS

### VALUES

Manufacturing Process	Blown
Thickness (nominal)	9.9 Micron / 39 Gauge / 0.39 Mil
Film Width (inches)	15.15"
Length (feet)	1476'
Net Weight / Roll (lbs. – nominal)	3.6 lb
Roll Diameter (O.D., inches)	5.5"
Core I.D.	3"

### TESTS

### METHODS

### VALUES

Ultimate Tensile MD (PSI)	ASTM D 882	13500 PSI
Ultimate Tensile TD (PSI)	ASTM D 882	4200 PSI
Elongation MD (%)	ASTM D 882	190%
Elongation TD (%)	ASTM D 882	730%
Tear Resistance MD (grams)	ASTM D 1922	140 G/MIL
Tear Resistance TD (grams)	ASTM D 1922	980 G/MIL
Puncture Resistance (in-lbs.)	ASTM D 4649	14.4 IN-LBS
Ultimate Prestretch (%)	Mfg. / Highlight	N/A
Cling (in to out, grams)	Mfg. method	150 G/IN

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