

V00101

TUFFlex Performance Machine Film

17.8 Micron / 70 Gauge / 0.70 Mil

Not intended as limiting specifications.

CHARACTERISTICS	VALUES	
Manufacturing Process	Cast	
Thickness (nominal)	17.8 Micron / 70 Gauge / 0.70 Mil	
Color	Clear	
Film Width (inches)	20"	
Length (feet)	6000'	
Net Weight / Roll (lb, nominal)	33.6 lb	
Core I.D.	3"	

TESTS	METHODS	VALUES
Haze	ASTM D1003	< 2.5 %
Gloss	ASTM D2457	76%
Tensile Strength at Break (MD)	ASTM D882	4800 psi
Tensile Strength at Break (TD)	ASTM D882	3500 psi
Elongation at Break (MD)	ASTM D882	500%
Elongation at Break (TD)	ASTM D882	675%
Elmendorf Tear Strength (MD)	ASTM D1922	200 g
Elmendorf Tear Strength (TD)	ASTM D1922	375 g

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03/19
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V00102

TUFFlex Performance Machine Film

19 Micron / 75 Gauge / 0.75 Mil

Not intended as limiting specifications.

CHARACTERISTICS

VALUES

Manufacturing Process	Cast
Thickness (nominal)	19 Micron / 75 Gauge / 0.75 Mil
Color	Clear
Film Width (inches)	20"
Length (feet)	5000'
Net Weight / Roll (lb, nominal)	30 lb
Core I.D.	3"

TESTS

METHODS

VALUES

Haze	ASTM D1003	< 2.5 %
Gloss	ASTM D2457	76%
Tensile Strength at Break (MD)	ASTM D882	4800 psi
Tensile Strength at Break (TD)	ASTM D882	3560 psi
Elongation at Break (MD)	ASTM D882	505%
Elongation at Break (TD)	ASTM D882	685%
Elmendorf Tear Strength (MD)	ASTM D1922	210 g
Elmendorf Tear Strength (TD)	ASTM D1922	385 g

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TFStetchTDSUS

V00103

TUFFlex Performance Machine Film

20.3 Micron / 80 Gauge / 0.80 Mil

Not intended as limiting specifications.

CHARACTERISTICS	VALUES	
Manufacturing Process	Cast	
Thickness (nominal)	20.3 Micron / 80 Gauge / 0.80 Mil	
Color	Clear	
Film Width (inches)	20"	
Length (feet)	5500'	
Net Weight / Roll (lb, nominal)	35.2 lb	
Core I.D.	3"	

TESTS	METHODS	VALUES
Haze	ASTM D1003	< 2.5 %
Gloss	ASTM D2457	76%
Tensile Strength at Break (MD)	ASTM D882	4800 psi
Tensile Strength at Break (TD)	ASTM D882	3560 psi
Elongation at Break (MD)	ASTM D882	525%
Elongation at Break (TD)	ASTM D882	695%
Elmendorf Tear Strength (MD)	ASTM D1922	250 g
Elmendorf Tear Strength (TD)	ASTM D1922	400 g

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03/19
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V00142

TUFFlex Performance Machine Film

15.2 Micron / 60 Gauge / 0.60 Mil

Not intended as limiting specifications.

CHARACTERISTICS	VALUES	
Manufacturing Process	Cast	
Thickness (nominal)	15.2 Micron / 60 Gauge / 0.60 Mil	
Color	Clear	
Film Width (inches)	20"	
Length (feet)	8000'	
Net Weight / Roll (lb, nominal)	38.4 lb	
Roll Diameter (O.D., inches)	9.5"	
Core I.D.	3"	
TESTS	METHODS	VALUES
Haze	ASTM D1003	2.5%
Gloss	ASTM D2457	76%
Dart Impact Strength	ASTM D1709	100 g
Tensile Strength at Break (MD)	ASTM D882	4700 psi
Tensile Strength at Break (TD)	ASTM D882	3400 psi
Tensile Strength at 200% (MD)	ASTM D882	1400 psi
Tensile Strength at 200% (TD)	ASTM D882	1250 psi
Elongation at Break (MD)	ASTM D882	480%
Elongation at Break (TD)	ASTM D882	650%
Elmendorf Tear Strength (MD)	ASTM D1922	180 g
Elmendorf Tear Strength (TD)	ASTM D1922	360 g
Cling	ASTM D5458	90 g

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03/19
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V00143

TUFFlex Performance Machine Film

15.2 Micron / 60 Gauge / 0.60 Mil

Not intended as limiting specifications.

CHARACTERISTICS	VALUES	
Manufacturing Process	Cast	
Thickness (nominal)	15.2 Micron / 60 Gauge / 0.60 Mil	
Color	Clear	
Film Width (inches)	30"	
Length (feet)	8000'	
Net Weight / Roll (lb, nominal)	57.6 lb	
Roll Diameter (O.D., inches)	9.5"	
Core I.D.	3"	
TESTS	METHODS	VALUES
Haze	ASTM D1003	2.5%
Gloss	ASTM D2457	76%
Dart Impact Strength	ASTM D1709	100 g
Tensile Strength at Break (MD)	ASTM D882	4700 psi
Tensile Strength at Break (TD)	ASTM D882	3400 psi
Tensile Strength at 200% (MD)	ASTM D882	1400 psi
Tensile Strength at 200% (TD)	ASTM D882	1250 psi
Elongation at Break (MD)	ASTM D882	480%
Elongation at Break (TD)	ASTM D882	650%
Elmendorf Tear Strength (MD)	ASTM D1922	180 g
Elmendorf Tear Strength (TD)	ASTM D1922	360 g
Cling	ASTM D5458	90 g

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V00144

TUFFlex Performance Machine Film

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Not intended as limiting specifications.

CHARACTERISTICS	VALUES	
Manufacturing Process	Cast	
Thickness (nominal)	17.8 Micron / 70 Gauge / 0.70 Mil	
Color	Clear	
Film Width (inches)	20"	
Length (feet)	6500'	
Net Weight / Roll (lb, nominal)	36.4 lb	
Roll Diameter (O.D., inches)	9.5"	
Core I.D.	3"	
TESTS	METHODS	VALUES
Haze	ASTM D1003	2.5%
Gloss	ASTM D2457	76%
Dart Impact Strength	ASTM D1709	120 g
Tensile Strength at Break (MD)	ASTM D882	4800 psi
Tensile Strength at Break (TD)	ASTM D882	3560 psi
Tensile Strength at 200% (MD)	ASTM D882	1500 psi
Tensile Strength at 200% (TD)	ASTM D882	1310 psi
Elongation at Break (MD)	ASTM D882	490%
Elongation at Break (TD)	ASTM D882	675%
Elmendorf Tear Strength (MD)	ASTM D1922	190 g
Elmendorf Tear Strength (TD)	ASTM D1922	375 g
Cling	ASTM D5458	90 g

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V00145

TUFFlex Performance Machine Film

17.8 Micron / 70 Gauge / 0.70 Mil

Not intended as limiting specifications.

CHARACTERISTICS	VALUES	
Manufacturing Process	Cast	
Thickness (nominal)	17.8 Micron / 70 Gauge / 0.70 Mil	
Color	Clear	
Film Width (inches)	30"	
Length (feet)	6500'	
Net Weight / Roll (lb, nominal)	54.6 lb	
Roll Diameter (O.D., inches)	9.5"	
Core I.D.	3"	
TESTS	METHODS	VALUES
Haze	ASTM D1003	2.5%
Gloss	ASTM D2457	76%
Dart Impact Strength	ASTM D1709	120 g
Tensile Strength at Break (MD)	ASTM D882	4800 psi
Tensile Strength at Break (TD)	ASTM D882	3560 psi
Tensile Strength at 200% (MD)	ASTM D882	1500 psi
Tensile Strength at 200% (TD)	ASTM D882	1310 psi
Elongation at Break (MD)	ASTM D882	490%
Elongation at Break (TD)	ASTM D882	675%
Elmendorf Tear Strength (MD)	ASTM D1922	190 g
Elmendorf Tear Strength (TD)	ASTM D1922	375 g
Cling	ASTM D5458	90 g

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V00146

TUFFlex Performance Machine Film

19.1 Micron / 75 Gauge / 0.75 Mil

Not intended as limiting specifications.

CHARACTERISTICS	VALUES	
Manufacturing Process	Cast	
Thickness (nominal)	19.1 Micron / 75 Gauge / 0.75 Mil	
Color	Clear	
Film Width (inches)	20"	
Length (feet)	6000'	
Net Weight / Roll (lb, nominal)	36 lb	
Roll Diameter (O.D., inches)	9.5"	
Core I.D.	3"	
TESTS	METHODS	VALUES
Haze	ASTM D1003	2.5%
Gloss	ASTM D2457	76%
Dart Impact Strength	ASTM D1709	130 g
Tensile Strength at Break (MD)	ASTM D882	4800 psi
Tensile Strength at Break (TD)	ASTM D882	3560 psi
Tensile Strength at 200% (MD)	ASTM D882	1500 psi
Tensile Strength at 200% (TD)	ASTM D882	1310 psi
Elongation at Break (MD)	ASTM D882	505%
Elongation at Break (TD)	ASTM D882	685%
Elmendorf Tear Strength (MD)	ASTM D1922	210 g
Elmendorf Tear Strength (TD)	ASTM D1922	385 g
Cling	ASTM D5458	90 g

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V00147

TUFFlex Performance Machine Film

20.3 Micron / 80 Gauge / 0.8 Mil

Not intended as limiting specifications.

CHARACTERISTICS	VALUES	
Manufacturing Process	Cast	
Thickness (nominal)	20.3 Micron / 80 Gauge / 0.8 Mil	
Color	Clear	
Film Width (inches)	20"	
Length (feet)	5000'	
Net Weight / Roll (lb, nominal)	32 lb	
Roll Diameter (O.D., inches)	9.5"	
Core I.D.	3"	

TESTS	METHODS	VALUES
Haze	ASTM D1003	2.5%
Gloss	ASTM D2457	76%
Dart Impact Strength	ASTM D1709	155 g
Tensile Strength at Break (MD)	ASTM D882	4800 psi
Tensile Strength at Break (TD)	ASTM D882	3560 psi
Tensile Strength at 200% (MD)	ASTM D882	1500 psi
Tensile Strength at 200% (TD)	ASTM D882	1310 psi
Elongation at Break (MD)	ASTM D882	525%
Elongation at Break (TD)	ASTM D882	695%
Elmendorf Tear Strength (MD)	ASTM D1922	250 g
Elmendorf Tear Strength (TD)	ASTM D1922	400 g
Cling	ASTM D5458	90 g

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V00148

TUFFlex Performance Machine Film

20.3 Micron / 80 Gauge / 0.8 Mil

Not intended as limiting specifications.

CHARACTERISTICS	VALUES	
Manufacturing Process	Cast	
Thickness (nominal)	20.3 Micron / 80 Gauge / 0.8 Mil	
Color	Clear	
Film Width (inches)	20"	
Length (feet)	6000'	
Net Weight / Roll (lb, nominal)	38.4 lb	
Roll Diameter (O.D., inches)	9.5"	
Core I.D.	3"	
TESTS	METHODS	VALUES
Haze	ASTM D1003	2.5%
Gloss	ASTM D2457	76%
Dart Impact Strength	ASTM D1709	155 g
Tensile Strength at Break (MD)	ASTM D882	4800 psi
Tensile Strength at Break (TD)	ASTM D882	3560 psi
Tensile Strength at 200% (MD)	ASTM D882	1500 psi
Tensile Strength at 200% (TD)	ASTM D882	1310 psi
Elongation at Break (MD)	ASTM D882	525%
Elongation at Break (TD)	ASTM D882	695%
Elmendorf Tear Strength (MD)	ASTM D1922	250 g
Elmendorf Tear Strength (TD)	ASTM D1922	400 g
Cling	ASTM D5458	90 g

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V00149

TUFFlex Performance Machine Film

20.3 Micron / 80 Gauge / 0.8 Mil

Not intended as limiting specifications.

CHARACTERISTICS	VALUES	
Manufacturing Process	Cast	
Thickness (nominal)	20.3 Micron / 80 Gauge / 0.8 Mil	
Color	Clear	
Film Width (inches)	30"	
Length (feet)	6000'	
Net Weight / Roll (lb, nominal)	57.6 lb	
Roll Diameter (O.D., inches)	9.5"	
Core I.D.	3"	

TESTS	METHODS	VALUES
Haze	ASTM D1003	2.5%
Gloss	ASTM D2457	76%
Dart Impact Strength	ASTM D1709	155 g
Tensile Strength at Break (MD)	ASTM D882	4800 psi
Tensile Strength at Break (TD)	ASTM D882	3560 psi
Tensile Strength at 200% (MD)	ASTM D882	1500 psi
Tensile Strength at 200% (TD)	ASTM D882	1310 psi
Elongation at Break (MD)	ASTM D882	525%
Elongation at Break (TD)	ASTM D882	695%
Elmendorf Tear Strength (MD)	ASTM D1922	250 g
Elmendorf Tear Strength (TD)	ASTM D1922	400 g
Cling	ASTM D5458	90 g

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V00150

TUFFlex Performance Machine Film

22.9 Micron / 90 Gauge / 0.9 Mil

Not intended as limiting specifications.

CHARACTERISTICS

VALUES

Manufacturing Process	Cast
Thickness (nominal)	22.9 Micron / 90 Gauge / 0.9 Mil
Color	Clear
Film Width (inches)	20"
Length (feet)	5250'
Net Weight / Roll (lb, nominal)	37.8 lb
Roll Diameter (O.D., inches)	9.5"
Core I.D.	3"

TESTS

METHODS

VALUES

Haze	ASTM D1003	2.5%
Gloss	ASTM D2457	76%
Dart Impact Strength	ASTM D1709	170 g
Tensile Strength at Break (MD)	ASTM D882	4800 psi
Tensile Strength at Break (TD)	ASTM D882	3560 psi
Tensile Strength at 200% (MD)	ASTM D882	1500 psi
Tensile Strength at 200% (TD)	ASTM D882	1310 psi
Elongation at Break (MD)	ASTM D882	555%
Elongation at Break (TD)	ASTM D882	715%
Elmendorf Tear Strength (MD)	ASTM D1922	265 g
Elmendorf Tear Strength (TD)	ASTM D1922	440 g
Cling	ASTM D5458	90 g

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03/19
TFStetchTDSUS

V00151

TUFFlex Performance Machine Film

22.9 Micron / 90 Gauge / 0.9 Mil

Not intended as limiting specifications.

CHARACTERISTICS

VALUES

Manufacturing Process	Cast
Thickness (nominal)	22.9 Micron / 90 Gauge / 0.9 Mil
Color	Clear
Film Width (inches)	30"
Length (feet)	5250'
Net Weight / Roll (lb, nominal)	37.8 lb
Roll Diameter (O.D., inches)	9.5"
Core I.D.	3"

TESTS

METHODS

VALUES

Haze	ASTM D1003	2.5%
Gloss	ASTM D2457	76%
Dart Impact Strength	ASTM D1709	170 g
Tensile Strength at Break (MD)	ASTM D882	4800 psi
Tensile Strength at Break (TD)	ASTM D882	3560 psi
Tensile Strength at 200% (MD)	ASTM D882	1500 psi
Tensile Strength at 200% (TD)	ASTM D882	1310 psi
Elongation at Break (MD)	ASTM D882	555%
Elongation at Break (TD)	ASTM D882	715%
Elmendorf Tear Strength (MD)	ASTM D1922	265 g
Elmendorf Tear Strength (TD)	ASTM D1922	440 g
Cling	ASTM D5458	90 g

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03/19
TFStetchTDSUS

V00152

TUFFlex Performance Machine Film

30.5 Micron / 120 Gauge / 1.2 Mil

Not intended as limiting specifications.

CHARACTERISTICS	VALUES	
Manufacturing Process	Cast	
Thickness (nominal)	30.5 Micron / 120 Gauge / 1.2 Mil	
Color	Clear	
Film Width (inches)	20"	
Length (feet)	4000'	
Net Weight / Roll (lb, nominal)	38.4 lb	
Roll Diameter (O.D., inches)	9.5"	
Core I.D.	3"	

TESTS	METHODS	VALUES
Haze	ASTM D1003	3%
Gloss	ASTM D2457	76%
Dart Impact Strength	ASTM D1709	255 g
Tensile Strength at Break (MD)	ASTM D882	4800 psi
Tensile Strength at Break (TD)	ASTM D882	3560 psi
Tensile Strength at 200% (MD)	ASTM D882	1500 psi
Tensile Strength at 200% (TD)	ASTM D882	1310 psi
Elongation at Break (MD)	ASTM D882	595%
Elongation at Break (TD)	ASTM D882	760%
Elmendorf Tear Strength (MD)	ASTM D1922	300 g
Elmendorf Tear Strength (TD)	ASTM D1922	510 g
Cling	ASTM D5458	90 g

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03/19
TFStetchTDSUS

V00215

TUFFlex Performance Machine Film

20.3 Micron / 80 Gauge / 0.80 Mil

Not intended as limiting specifications.

CHARACTERISTICS	VALUES	
Manufacturing Process	Cast	
Thickness (nominal)	20.3 Micron / 80 Gauge / 0.80 Mil	
Color	Clear	
Film Width (inches)	20"	
Length (feet)	5000'	
Net Weight / Roll (lb, nominal)	32 lb	
Core I.D.	3"	

TESTS	METHODS	VALUES
Haze	ASTM D1003	< 2.5%
Gloss	ASTM D2457	76%
Tensile Strength at Break (MD)	ASTM D882	4800 psi
Tensile Strength at Break (TD)	ASTM D882	3560 psi
Elongation at Break (MD)	ASTM D882	525%
Elongation at Break (TD)	ASTM D882	695%
Elmendorf Tear Strength (MD)	ASTM D1922	250 g
Elmendorf Tear Strength (TD)	ASTM D1922	400 g

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V00221

TUFFlex Performance Machine Film

15.2 Micron / 60 Gauge / 0.60 mil

Not intended as limiting specifications.

CHARACTERISTICS	VALUES	
Manufacturing Process	Cast	
Thickness (nominal)	15.2 Micron / 60 Gauge / 0.60 mil	
Film Width (inches)	20"	
Length (feet)	7500'	
Net Weight / Roll (lb, nominal)	36 lb	
Roll Diameter (O.D., inches)	9.1"	
Core I.D.	3"	

TESTS	METHODS	VALUES
Ultimate Tensile MD (PSI)	ASTM D 882	6700 psi
Ultimate Tensile TD (PSI)	ASTM D 882	4000 psi
Elongation MD (%)	ASTM D 882	480%
Elongation TD (%)	ASTM D 882	600%
Tear Resistance MD (grams)	ASTM D 1922	300 g/mil
Tear Resistance TD (grams)	ASTM D 1922	600 g/mil
Puncture Resistance (in-lbs.)	ASTM D 4649	18 in-lb
Ultimate Prestretch (%)	Mfg. / Highlight	340%
Cling (in to out, grams)	Mfg. method	150 g/in

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V00222

TUFFlex Performance Machine Film

17.8 Micron / 70 Gauge / 0.70 Mil

Not intended as limiting specifications.

CHARACTERISTICS	VALUES	
Manufacturing Process	Cast	
Thickness (nominal)	17.8 Micron / 70 Gauge / 0.70 Mil	
Film Width (inches)	20"	
Length (feet)	6000'	
Net Weight / Roll (lb, nominal)	33.6 lb	
Roll Diameter (O.D., inches)	8.9"	
Core I.D.	3"	

TESTS	METHODS	VALUES
Ultimate Tensile MD (PSI)	ASTM D 882	6700 psi
Ultimate Tensile TD (PSI)	ASTM D 882	4000 psi
Elongation MD (%)	ASTM D 882	500%
Elongation TD (%)	ASTM D 882	620%
Tear Resistance MD (grams)	ASTM D 1922	300 g/mil
Tear Resistance TD (grams)	ASTM D 1922	600 g/mil
Puncture Resistance (in-lbs.)	ASTM D 4649	21 in-lb
Ultimate Prestretch (%)	Mfg. / Highlight	350%
Cling (in to out, grams)	Mfg. method	150 g/in

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03/19
TFStetchTDSUS

V00223

TUFFlex Performance Machine Film

17.8 Micron / 70 Gauge / 0.70 Mil

Not intended as limiting specifications.

CHARACTERISTICS	VALUES	
Manufacturing Process	Cast	
Thickness (nominal)	17.8 Micron / 70 Gauge / 0.70 Mil	
Film Width (inches)	30"	
Length (feet)	6000'	
Net Weight / Roll (lb, nominal)	50.4 lb	
Roll Diameter (O.D., inches)	8.9"	
Core I.D.	3"	

TESTS	METHODS	VALUES
Ultimate Tensile MD (PSI)	ASTM D 882	6700 psi
Ultimate Tensile TD (PSI)	ASTM D 882	4000 psi
Elongation MD (%)	ASTM D 882	500%
Elongation TD (%)	ASTM D 882	620%
Tear Resistance MD (grams)	ASTM D 1922	300 g/mil
Tear Resistance TD (grams)	ASTM D 1922	600 g/mil
Puncture Resistance (in-lbs.)	ASTM D 4649	21 in-lb
Ultimate Prestretch (%)	Mfg. / Highlight	350%
Cling (in to out, grams)	Mfg. method	150 g/in

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V00224

TUFFlex Performance Machine Film

20.3 Micron / 80 Gauge / 0.80 Mil

Not intended as limiting specifications.

CHARACTERISTICS	VALUES	
Manufacturing Process	Blown	
Thickness (nominal)	20.3 Micron / 80 Gauge / 0.80 Mil	
Film Width (inches)	20"	
Length (feet)	6000'	
Net Weight / Roll (lb, nominal)	38.4 lb	
Roll Diameter (O.D., inches)	9.4"	
Core I.D.	3"	

TESTS	METHODS	VALUES
Ultimate Tensile MD (PSI)	ASTM D 882	6900 psi
Ultimate Tensile TD (PSI)	ASTM D 882	4900 psi
Elongation MD (%)	ASTM D 882	550%
Elongation TD (%)	ASTM D 882	750%
Tear Resistance MD (grams)	ASTM D 1922	150 g/mil
Tear Resistance TD (grams)	ASTM D 1922	750 g/mil
Puncture Resistance (in-lbs.)	ASTM D 4649	20 in-lb
Ultimate Prestretch (%)	Mfg. / Highlight	460%
Cling (in to out, grams)	Mfg. method	150 g/in

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TFStetchTDSUS

V00225

TUFFlex Performance Machine Film

20.3 Micron / 80 Gauge / 0.80 Mil

Not intended as limiting specifications.

CHARACTERISTICS	VALUES	
Manufacturing Process	Cast	
Thickness (nominal)	20.3 Micron / 80 Gauge / 0.80 Mil	
Film Width (inches)	20"	
Length (feet)	5000'	
Net Weight / Roll (lb, nominal)	32 lb	
Roll Diameter (O.D., inches)	8.7"	
Core I.D.	3"	

TESTS	METHODS	VALUES
Ultimate Tensile MD (PSI)	ASTM D 882	6900 psi
Ultimate Tensile TD (PSI)	ASTM D 882	4000 psi
Elongation MD (%)	ASTM D 882	480%
Elongation TD (%)	ASTM D 882	620%
Tear Resistance MD (grams)	ASTM D 1922	330 g/mil
Tear Resistance TD (grams)	ASTM D 1922	540 g/mil
Puncture Resistance (in-lbs.)	ASTM D 4649	23 in-lb
Ultimate Prestretch (%)	Mfg. / Highlight	370%
Cling (in to out, grams)	Mfg. method	150 g/in

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V00226

TUFFlex Performance Machine Film

20.3 Micron / 80 Gauge / 0.80 Mil

Not intended as limiting specifications.

CHARACTERISTICS	VALUES	
Manufacturing Process	Cast	
Thickness (nominal)	20.3 Micron / 80 Gauge / 0.80 Mil	
Film Width (inches)	20"	
Length (feet)	6000'	
Net Weight / Roll (lb, nominal)	38.4 lb	
Roll Diameter (O.D., inches)	9.4"	
Core I.D.	3"	

TESTS	METHODS	VALUES
Ultimate Tensile MD (PSI)	ASTM D 882	6900 psi
Ultimate Tensile TD (PSI)	ASTM D 882	4000 psi
Elongation MD (%)	ASTM D 882	480%
Elongation TD (%)	ASTM D 882	620%
Tear Resistance MD (grams)	ASTM D 1922	330 g/mil
Tear Resistance TD (grams)	ASTM D 1922	540 g/mil
Puncture Resistance (in-lbs.)	ASTM D 4649	23 in-lb
Ultimate Prestretch (%)	Mfg. / Highlight	370%
Cling (in to out, grams)	Mfg. method	150 g/in

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V00227

TUFFlex Performance Machine Film

20.3 Micron / 80 Gauge / 0.80 Mil

Not intended as limiting specifications.

CHARACTERISTICS

VALUES

Manufacturing Process	Cast
Thickness (nominal)	20.3 Micron / 80 Gauge / 0.80 Mil
Film Width (inches)	30"
Length (feet)	6000'
Net Weight / Roll (lb, nominal)	57.6 lb
Roll Diameter (O.D., inches)	9.4"
Core I.D.	3"

TESTS

METHODS

VALUES

Ultimate Tensile MD (PSI)	ASTM D 882	6900 psi
Ultimate Tensile TD (PSI)	ASTM D 882	4000 psi
Elongation MD (%)	ASTM D 882	480%
Elongation TD (%)	ASTM D 882	620%
Tear Resistance MD (grams)	ASTM D 1922	330 g/mil
Tear Resistance TD (grams)	ASTM D 1922	540 g/mil
Puncture Resistance (in-lbs.)	ASTM D 4649	23 in-lb
Ultimate Prestretch (%)	Mfg. / Highlight	370%
Cling (in to out, grams)	Mfg. method	150 g/in

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V01779

TUFFlex Performance Machine Film

25.4 Micron / 100 Gauge / 1.00 mil

Not intended as limiting specifications.

CHARACTERISTICS

VALUES

Manufacturing Process	Blown
Thickness (nominal)	25.4 Micron / 100 Gauge / 1.00 mil
Film Width (inches)	20"
Length (feet)	4400'
Net Weight / Roll (lb, nominal)	35.2 lb
Roll Diameter (O.D., inches)	9.8"
Core I.D.	3"

TESTS

METHODS

VALUES

Ultimate Tensile MD (psi)	ASTM D 882	6800 psi
Ultimate Tensile TD (psi)	ASTM D 882	4900 psi
Elongation MD (%)	ASTM D 882	600%
Elongation TD (%)	ASTM D 882	810%
Tear Resistance MD (grams)	ASTM D 1922	150 g/mil
Tear Resistance TD (grams)	ASTM D 1922	750 g/mil
Puncture Resistance (in-lbs.)	ASTM D 4649	25 in-lbs
Ultimate Prestretch (%)	Mfg./Highlight	420%
Cling (in to out, grams)	Mfg. method	150 g/in

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V01781

TUFFlex Performance Machine Film

29.2 Micron / 115 Gauge / 1.15 mil

Not intended as limiting specifications.

CHARACTERISTICS	VALUES	
Manufacturing Process	Cast	
Thickness (nominal)	29.2 Micron / 115 Gauge / 1.15 mil	
Film Width (inches)	20"	
Length (feet)	3500'	
Net Weight / Roll (lb, nominal)	32.2 lb	
Roll Diameter (O.D., inches)	9"	
Core I.D.	3"	

TESTS	METHODS	VALUES
Ultimate Tensile MD (psi)	ASTM D 882	6900 psi
Ultimate Tensile TD (psi)	ASTM D 882	4000 psi
Elongation MD (%)	ASTM D 882	540%
Elongation TD (%)	ASTM D 882	650%
Tear Resistance MD (grams)	ASTM D 1922	330 g/mil
Tear Resistance TD (grams)	ASTM D 1922	530 g/mil
Puncture Resistance (in-lbs.)	ASTM D 4649	34.6 in-lbs
Ultimate Prestretch (%)	Mfg./Highlight	350%
Cling (in to out, grams)	Mfg. method	150 g/in

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TFStetchTDSUS

V01782

TUFFlex Performance Machine Film

27.9 Micron / 110 Gauge / 1.10 mil

Not intended as limiting specifications.

CHARACTERISTICS

VALUES

Manufacturing Process	Cast
Thickness (nominal)	27.9 Micron / 110 Gauge / 1.10 mil
Film Width (inches)	20"
Length (feet)	4400'
Net Weight / Roll (lb, nominal)	38.7 lb
Roll Diameter (O.D., inches)	8.8"
Core I.D.	3"

TESTS

METHODS

VALUES

Ultimate Tensile MD (psi)	ASTM D 882	6900 psi
Ultimate Tensile TD (psi)	ASTM D 882	4000 psi
Elongation MD (%)	ASTM D 882	520%
Elongation TD (%)	ASTM D 882	600%
Tear Resistance MD (grams)	ASTM D 1922	330 g/mil
Tear Resistance TD (grams)	ASTM D 1922	31.7 g/mil
Puncture Resistance (in-lbs.)	ASTM D 4649	34.6 in-lbs
Ultimate Prestretch (%)	Mfg./Highlight	400%
Cling (in to out, grams)	Mfg. method	150 g/in

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TFStetchTDSUS

V01784

TUFFlex Performance Machine Film

20.3 Micron / 80 Gauge / 0.80 mil

Not intended as limiting specifications.

CHARACTERISTICS

VALUES

Manufacturing Process	Cast
Thickness (nominal)	20.3 Micron / 80 Gauge / 0.80 mil
Film Width (inches)	60"
Length (feet)	5000'
Net Weight / Roll (lb, nominal)	193.6 lb
Roll Diameter (O.D., inches)	9"
Core I.D.	3"

TESTS

METHODS

VALUES

Ultimate Tensile MD (psi)	ASTM D 882	6900 psi
Ultimate Tensile TD (psi)	ASTM D 882	4000 psi
Elongation MD (%)	ASTM D 882	480%
Elongation TD (%)	ASTM D 882	620%
Tear Resistance MD (grams)	ASTM D 1922	330 g/mil
Tear Resistance TD (grams)	ASTM D 1922	540 g/mil
Puncture Resistance (in-lbs.)	ASTM D 4649	23 in-lbs
Ultimate Prestretch (%)	Mfg./Highlight	380%
Cling (in to out, grams)	Mfg. method	150 g/in

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V01785

TUFFlex Performance Machine Film

20.3 Micron / 80 Gauge / 0.80 mil

Not intended as limiting specifications.

CHARACTERISTICS	VALUES	
Manufacturing Process	Cast	
Thickness (nominal)	20.3 Micron / 80 Gauge / 0.80 mil	
Film Width (inches)	20"	
Length (feet)	6000'	
Net Weight / Roll (lb, nominal)	38.4 lb	
Roll Diameter (O.D., inches)	9"	
Core I.D.	3"	

TESTS	METHODS	VALUES
Ultimate Tensile MD (psi)	ASTM D 882	6900 psi
Ultimate Tensile TD (psi)	ASTM D 882	4000 psi
Elongation MD (%)	ASTM D 882	480%
Elongation TD (%)	ASTM D 882	620%
Tear Resistance MD (grams)	ASTM D 1922	330 g/mil
Tear Resistance TD (grams)	ASTM D 1922	540 g/mil
Puncture Resistance (in-lbs.)	ASTM D 4649	23 in-lbs
Ultimate Prestretch (%)	Mfg./Highlight	380%
Cling (in to out, grams)	Mfg. method	150 g/in

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V02019

TUFFlex Performance Machine Film

12.7 Micron / 50 Gauge / 0.50 Mil

Not intended as limiting specifications.

CHARACTERISTICS

VALUES

Manufacturing Process	Cast
Thickness (nominal)	12.7 Micron / 50 Gauge / 0.50 Mil
Color	Clear
Film Width (inches)	20"
Length (feet)	9000'
Net Weight / Roll (lb, nominal)	36 lb
Core I.D.	3"

TESTS

METHODS

VALUES

Haze	ASTM D1003	<2.5%
Gloss	ASTM D2457	76%
Tensile Strength at Break (MD)	ASTM D882	4600 psi
Tensile Strength at Break (TD)	ASTM D882	3250 psi
Elongation at Break (MD)	ASTM D882	450%
Elongation at Break (TD)	ASTM D882	600%
Elmendorf Tear Strength (MD)	ASTM D1922	170 g
Elmendorf Tear Strength (TD)	ASTM D1922	350 g
Cling	ASTM D5458	90g

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03/19
TFStetchTDSUS

V02024

TUFFlex Performance Machine Film

29.2 Micron / 115 Gauge / 1.15 Mil

Not intended as limiting specifications.

CHARACTERISTICS

VALUES

Manufacturing Process	Cast
Thickness (nominal)	29.2 Micron / 115 Gauge / 1.15 Mil
Film Width (inches)	20"
Length (feet)	3500'
Net Weight / Roll (lb, nominal)	32.2 lb
Core I.D.	3"

TESTS

METHODS

VALUES

Haze	ASTM D1003	<3%
Gloss	ASTM D2457	76%
Tensile Strength at Break (MD)	ASTM D882	4800 psi
Tensile Strength at Break (TD)	ASTM D882	3500 psi
Elongation at Break (MD)	ASTM D882	595%
Elongation at Break (TD)	ASTM D882	760%
Elmendorf Tear Strength (MD)	ASTM D1922	300 g
Elmendorf Tear Strength (TD)	ASTM D1922	500 g
Cling	ASTM D5458	90g

TUFFlex™

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