

# Technical specification sheet

**Ball & Doggett**

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**Product: Teslin Digital**

**Category: Small Format Digital - Synthetic**

**Mill: PPG**

**Country of Origin: United States of America**

## Technical specifications:

### Teslin Substrate Technical Data

Teslin® substrate, from PPG Industries, is a microporous, dimensionally stable, highly filled, single-layer, polyolefin synthetic material. A non-abrasive inorganic filler comprises 60 percent of the weight, and it is 65 percent air by volume. The porous, uncoated nature of Teslin substrate allows inks, adhesives, coatings, and laminating films to penetrate into its structure, forming strong interlocking bonds with the substrate.

	SP 600	SP 700 <sup>2</sup>	SP 800 <sup>2</sup>	SP 1000 <sup>2</sup>	SPID 1000	IJ 1000 BLUE	IJ 1000 WP	DIGITAL 1000	SP1200 <sup>2</sup>	SP 1400 <sup>2</sup>	SPID 1400	HD 1400	SP 1800	Reference
<b>Gauge (mils)</b>	5.8	7.0	8.0	10.0	10.0	10.0	10.0	10.0	12.0	14.0	14.0	14.0	18.0	ASTM D-374
<b>Tolerance (+/- mils)</b>	0.5	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.9	0.9	0.9	1.2	
<b>Gauge (microns)</b>	148	178	203	254	254	254	254	267	305	356	356	356	457	
<b>Tolerance (microns)</b>	13.0	17.8	17.8	17.8	17.8	17.8	17.8	17.8	20.3	22.9	22.9	22.9	30.5	
<b>Yield (in.<sup>2</sup>/lp.)</b>	7513	6263	5143	4150	4150	4150	4150	3,672	3511	2907	2907	2549	1909	ASTM D-3776
<b>(oz/sq yd)</b>	2.75	3.31	3.89	4.93	4.93	4.93	4.93	5.76	6.12	7.38	7.38	8.73	10.86	
<b>Grammage (g/m<sup>2</sup>)</b>	97	115	134	167	167	167	167	194	206	243	243	290	368	
<b>Density (g/cc)</b>	0.63	0.63	0.65	0.68	0.68	0.68	0.68	0.73	0.68	0.71	0.71	0.84		
<b>Master Roll Configuration</b>														
<b>Mill Roll Length (ft)</b>	7000	6000	5250	5000	5000	5000	5000	5000	3750	3300	3300	3300	2400	
<b>Mill Roll Length (m)</b>	2134	1829	1601	1524	1524	1524	1524	1524	1143	1006	1006	1006	732	
<b>Roll Weight (lbs)</b>	657	673	685	812	812	812	812	812	751	781	781	930	860	
<b>Roll Weight (kg)</b>	298	305	311	368	368	368	368	368	341	354	354	422	390	
<b>Tensile Properties</b>														
<b>MD Tensile Strength</b>														
<b>lb./in.</b>	13.0	14.4	16.5	19.6	19.6	19.6	19.6	25.4	23.2	25.0	25.0	39.0	31.0	ASTM D-882
<b>N/cm</b>	22.8	25.2	28.8	34.3	34.3	34.3	34.3	44.4	40.6	39.6	39.6	68.2	44.0	
<b>Elongation %</b>	600	650	700	750	750	750	750	760	770	790	790	860	660	
<b>1% Modulus</b>	3.4	3.3	3.6	3.7	3.7	3.7	3.7	4.3	3.7	4.2	4.2	4.9	4.5	
<b>CD Tensile Strength</b>														
<b>lb./in.</b>	5.1	5.9	6.7	8.4	8.4	8.4	8.4	11.0	9.7	11.0	11.0	14.0	14.8	
<b>N.cm</b>	9.3	10.3	11.6	15.1	15.1	15.1	15.1	18.6	17.0	19.6	19.6	24.5	21.0	
<b>Elmendorf Tear (g)</b>														
<b>MD</b>	66	93	111	141	141	141	141	167	179	188	188	261	288	ASTM D-1922
<b>Cd</b>	to MD	to MD	to MD	to MD	to MD	to MD	to MD	to MD	to MD	to MD	to MD	to MD	to MD	
<b>Brittleness Temperature</b>	<-70°C	<-70°C	<-70°C	<-70°C	<-70°C	<-70°C	<-70°C	<-70°C	<-70°C	<-70°C	<-70°C	<-70°C	<-70°C	ASTM D-746
<b>Shrinkage</b>	2.4	1.8	1.7	1.5	1.5	1.5	1.5	2.2	1.4	1.3	1.3	1.8	3.2	
<b>Optical Properties</b>														
<b>Brightness %</b>	89	89	90	91	91	91	91	91	92	92	92	92	92	ISO-2470
<b>Whiteness Index</b>	80	80	80	80	80	80	80	80	83	85	85	82	80	ASTM E-313
<b>Opacity (%)</b>	90	92	94	96	96	96	96	95	98	98	98	99	99	ISO-2471
<b>Transmission (%)</b>	17	15	11	8	8	8	8	9	6	5	5	4	3	ASTM D-1003
<b>Sheffield Smoothness</b>														
<b>Top</b>	46	41	44	42	42	42	42	54	42	40	40	49	63	ASTM T-538
<b>Bottom</b>	74	64	65	66	66	66	66	95	61	54	54	99	97	

1. Specifications are based on English units of measurement. Metric values are provided for convenience and are not to be considered precise values. Standard master roll width is 57" / 1447mm and 28" / 711mm OD. 40" / 1016mm OD rolls available upon request.

2. The maximum allowable shrinkage for Thermally Stabilized (TS) grade is 2% (measured at 135 °C for 15 minutes in a forced air oven). All other properties/specifications are the same for TS and SP grades.

Custom widths up to 60"/1549mm available upon request. Digital 1000 is available in 12.5"/320mm and 20"/500mm width x 1400'/427m length rolls. Master rolls are put up on 6"/152mm ID cores.