

# 306-9 Zippers

PERFORMANCE	TEST METHOD		REQUIREMENT			
<b>INITIAL PACKAGE / FULL PACKAGE</b>						
<b>Physical Properties</b>						
Construction Quality	Kohl's TM-10		All strands in place and of equal length, no glued, fused or bonded parts as approved by Kohl's Tech Team			
Sharp Points/Sharp Edges	CPSC 16 CFR 1500.48-49		No sharp points or sharp edges - Refer to Product Safety Policy			
<b>Colorfastness</b>						
Colorfastness to Chlorine Bleach AND Non-Chlorine Bleach on Zipper Tape	AATCC/ASTM TS-001		Shade Change: Grade 4 min			
Colorfastness to Crocking on Zipper Tape	AATCC 8/116		Dry - Grade 4 min Wet - Grade 3 min			
<b>Analytical</b>						
Corrosion Resistance (Metal Only)	Kohl's TM-6Option A		No corrosive oxidation or discoloration			
Nickel Content (Metal Only)	Kohl's TM-18		Negative			
<b>Appearance Retention</b>						
Appearance Retention after Laundering AND Dry Cleaning	AATCC/ASTM TS-008 Modified Ultra Tide® Powder Detergent		No noticeable loss of color on coating on zipper parts, e.g. Chain, stops, tapes, etc. (Refer to Kohl's Appearance Retention Policy, Fig.1) Color Change: Grade 4 min. Staining: Grade 4 min. Coating: Grade 3 min.			
<b>Strength &amp; Durability</b>						
Zipper Strength Testing	ASTM D2061		Use below chart for requirements and reference depending on zipper type			
<b>Specification Number &amp; Requirements</b>						
	1-2	3-4	5-7 (A)	5-7 (B)	8-9	10
Closed Chain Width (inch)	0.125-0.180	0.125-0.180	0.181 - 0.310	0.181 - 0.310	0.311 - 0.390	0.320 - 0.500
Tape Width	7/16 - 9/16	7/16 - 9/16	9/16-3/4	9/16-3/4	5/8 - 3/4	3/4 - 1.0
<b>Chain Crosswise Strength (lbf,min) ASTM D 2061;14.1</b>						
Brass/Nickel	66	121	110	143	143	165
Aluminum	53	77	77	88	88	110
Plastic	66	59	77	77	110	132
Coiled	53	77	132	154	176	220
<b>Separating Unit Crosswise Strength (lbf,min) ASTM D 2061;30.3</b>						
Brass/Nickel	15	20	22	33	33	48
Aluminum	15	20	26	33	33	48
Plastic	15	20	24	26	37	48
Coiled	15	13	26	33	33	48
<b>Single Element Strength (lbs.min) ASTM D 2061;14.2</b>						
Brass/Nickel	7	12	13	18	19	24
Aluminum	5	8	11	11	12	17
Plastic	6	6	10	10	18	20
<b>Single Element Slippage (lbs.min) ASTM D 2061;14.3</b>						
Brass/Nickel	5	9	10	10	13	19
Aluminum	5	6	6	10	12	17
Plastic	5	8	11	11	15	22
<b>Slider Lock hold (lbf,min) ASTM D 2061;87.1</b>						
Brass/Nickel	8.4	13.2	13.2	13.2	15.4	15.4
Aluminum	8.4	8.8	13.2	13.2	15.4	15.4
Plastic	5.5	4	7.7	13.2	13.2	15.4
Coiled	4.4	4.4	11	13.2	15.4	15.4
<b>Tab Pull-Off Strength (lbs,min) ASTM D 2061;68.1</b>						
Brass/Nickel	22	22	39.6	44	55	66
Aluminum	22	22	39.6	44	55	66
Plastic	22	22	39.6	39.6	44	66
Coiled	17.6	17.6	39.6	44	55	66
<b>Tab Twist-Off Strength (in-lb, min) ASTM D 2061;52.1 (Children's Decorative / Novelty 3 Part Tabs MUST Meet 4.0 in/lbs)</b>						
<b>Children's Apparel – tab must meet 4.0 in/lbs. per ASTM F 963-07</b>						
Brass/Nickel	2.5	2.5	4	4	6	7
Aluminum	2.5	2.5	4	4	6	7
Plastic	2.5	2.5	4	4	6	7
Coiled	1.3	1.3	4	4	6	7
<b>Operability (open/close) (lbf,max) ASTM D 2062;16</b>						
Brass/Nickel	0.7	0.8	1.1	1.5	1.8	1.8
Aluminum	0.7	0.8	1.1	1.5	1.8	1.8
Plastic	1.1	1.1	1.5	1.5	1.6	1.9
Coiled	1.1	0.9	1.5	1.5	1.6	1.9
<b>Top Stop Strength (lbf,min) ASTM D 2061;22.2</b>						
Brass/Nickel	15.4	17.6	22	28.6	33	35
Aluminum	15.4	17.6	22	22	33	35
Plastic	17.6	17.6	22	26.4	33	35
Coiled	15.4	17.6	26.4	28.6	28	35

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<b>Bottom Stop Strength (lbf,min) ASTM D 2061;22.5</b>						
Brass/Nickel	11	17.6	17.6	22	26.5	33
Aluminum	10	13	19.8	15.4	26.5	33
Plastic	11	11	19.8	22	30	37
Coiled	6.6	11	20	22	30	39.6
<b>ADDITIONAL COLORWAY TESTING</b>						
Appearance Retention after Laundering AND Dry Cleaning	AATCC/ASTM TS-008 Modified Ultra Tide® Powder Detergent		No noticeable loss of color on coating on zipper parts, e.g. Chain, stops, tapes, etc. (Refer to Kohl's Appearance Retention Policy, Fig.1) Color Change: Grade 4 min. Staining: Grade 4 min. Coating: Grade 3 min.			
Colorfastness to Chlorine Bleach AND Non-Chlorine Bleach on Zipper Tape	AATCC/ASTM TS-001		Shade Change: Grade 4 min			
Colorfastness to Crocking on Zipper Tape	AATCC 8/116		Dry - Grade 4 min Wet - Grade 3 min			
<b>Analytical Test-REQUIRED WHERE APPLICABLE AT ADDITIONAL COST</b>						
Formaldehyde	TM-5 (only for 4 years)	Negative, If Spot Test is Positive, proceed with step 2				
	JIS L 1041:2000 – Sec. 5.3.1 (2) Method B, JIS Water Extraction Method	Children over 4 T & Adults = 75 ppm max.				
		Children's 0-4T = 20 ppm max.				
<b>TOXICOLOGY TESTING – REQUIRED WHERE APPLICABLE AT ADDITIONAL COST</b>						
Lead Content in Surface Coating - Scrapeable in each color*	CPSC-CH-E1003-09.1		Children & Adult Products ≤ 90ppm (0.009% by weight)  Refer to Kohl's Product Safety Policy for additional requirement on Composite Testing			
Total Lead in Substrate Material*	CPSC-CH-E1002-08.1/ CPSC-CH-E1001-08.1		Children's of ALL ages & Adult products ≤100 ppm (0.010% total weight)  Refer to Kohl's Product Safety Policy for additional requirement on Composite Testing			
Phthalates in each plasticized part/material such as PVC, Vinyl*	CPSC-CH-C1001.09.3		Children's & Adult Products (Coatings Shall be tested)  < 0.1% (1000 ppm) in each part of DEHP, BBP, DBP, DINP, DIDP, DnHP, DnOP, DIBP, DnPP, DCHP  Refer to Kohl's Product Safety Policy for additional requirement on Composite Testing			
Soluble Heavy Metals*  Applies to Children's Toys	ASTM F 963-17		Children's Toys = Defined as a consumer product designed or intended by the manufacturer for a child, for use by the child when the child plays. Required for children's toys of ALL ages			

(\*) asterisk= ALL COLORWAYS MUST BE TESTED

\*\*\*ALL COMPONENTS MUST BE TESTED FOR TOXICOLOGY\*\*\*

Basic Submission – An individual zipper style. The basic submission includes the entire range of sizes in one substrate material. Submit in a dark color tape

### Minimum Sample Size Necessary for Testing

Initial Package: 5 mock ups + 25 pieces of darkest colorway

Additional Colorway: 5 mock ups + 5 pieces per colorway

### Toxicology Testing

Consult with approved lab for the number of samples

**\*\*Please refer to Kohl's preferred third party labs for individual and optional testing pricing**

Turn Around Time = 6 working days

PROTOCOL VERSION	DESCRIPTION OF CHANGE	DATE REVISION / APPROVED BY
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**306-9  
Zippers**

PERFORMANCE	TEST METHOD	REQUIREMENT
306-1	<ol style="list-style-type: none"> <li>1. Corrosion Resistance Test – Changed test method option to Option A</li> <li>2. Zipper Strength Requirements – Changed</li> <li>3. Appearance Retention – Changed test method to AATCC/ASTM TS-008 Modified.</li> <li>4. Lead Content for Scrapable Surfaces – Changed requirement from 600 ppm to 90 ppm.</li> <li>5. Added – Lead Content Total Substrate, Heavy Metal Content and Phthalate test for children's products</li> </ol>	Nov. 2008/Ro Jain
306-2	<ol style="list-style-type: none"> <li>1. Changed – Minimum Sample Size updated</li> <li>2. Appearance Retention – Added photo images in KAR policy for zipper evaluation.</li> <li>3. Zipper Requirements – Changed               <ul style="list-style-type: none"> <li>o Chain crosswise strength – zipper 5-7A, brass/nickel : changed to 110.3 from 132.</li> <li>o Slider lock hold – zipper 3-4, aluminum: changed to 8.8 from 13.2.</li> <li>o Operability – zipper 10, plastic &amp; coil: changed to 1.9 from 2.0.</li> <li>o Tab Twist-Off Strength – changed test method to ASTM D 2061;52.1 for general wearing apparel</li> <li>o Children's Apparel – test method remains with ASTM F 963-07. Tab must meet 4.0 in/lbs.</li> </ul> </li> <li>4. Updated – Test Method of Total Lead in Substrate Material</li> <li>5. Updated – Test Method of Lead Content in Surface Coating- Scrapeable in each color</li> <li>6. Updated – Test Method for Phthalates, added DNHP and applies to all children's products</li> </ol>	Nov. 2009/Ro Jain
306-3	1. Clarified 3 part zipper for children.	Dec. 2009/J. Engelman
306-4	<ol style="list-style-type: none"> <li>1. KAR Test – Added "Ultra" to Tide Detergent.</li> <li>2. Construction Quality – Assigned a test method # to Kohl's TM-10.</li> <li>3. Corrosion Resistance – Changed test method from Intertek USA #442 to Kohl's TM-6.</li> <li>4. Nickel Content – Changed test method from Intertek USA #443 to Kohl's TM-18.</li> <li>5. Lead in Surface Coating – Updated method to CPSC-CH-E1003-09.1. Added Adult requirement, &lt;90 ppm.</li> <li>6. Total Lead Substrate – Updated method to CPSC-CH-E1002-08.1/CPSC-CH-E1001-008.1.</li> <li>7. Phthalates – Updated method to CPSC-CH-C1001-09.3. Added Adult requirement, &lt;1000 ppm.</li> <li>8. Heavy Metals – Updated method to ASTM F963-08.</li> </ol>	Nov. 2011/Amy Her
306-5	<ol style="list-style-type: none"> <li>1. Lead in Substrate test – Starting Spring 2013, test is required on Adult products.</li> <li>2. Toxicology tests required on both Children &amp; Adult products.</li> </ol>	Sept. 2012/Vinoth Deenadayalan
306-6	<ol style="list-style-type: none"> <li>1. Removed "starting spring 2013" statement</li> <li>2. Added "coatings shall be tested" statement to the Phthalates test</li> <li>3. Heavy Metals – updated test method to ASTM F963-11</li> </ol>	May 2013/ Vinoth Deenadayalan
306-7	Removed pricing for testing/took out Intertek/added approved lab statement	October 6th 2014/Nov. 31 2014/Leah Gross-Hutchison
306-8	Added Formaldehyde	December 4th 2014- Michele Zydek
306-9	<ol style="list-style-type: none"> <li>1. Updated phthalates</li> <li>2. updated Heavy Solable Metals version</li> </ol>	October 2018-Deppisch