


**PROTOCOL # 819.3-X**

**Cookware-Cast Iron**

Performance Test	Test Method	Samples	Test Principle/Requirements	Rating (Section or exec. Summary which failed items can be referenced)
<b>LABELING</b>				
Labeling / Packaging Review	FPLA 16 CFR 500 & 19 CFR 134	All Samples	<p>Shall be legibly marked with the following information:</p> <ul style="list-style-type: none"> <li>-Distributor's name, trademark or other means of identification of the manufacturer or packer &amp; address (City, State &amp; Zip)</li> <li>-Product identification</li> <li>-Net quantity of the contents in terms of weight, measure or numerical count (Metric &amp; US Standard) or a combination so as to give accurate information and facilitate value comparison by the consumer (if applicable)</li> <li>-Country of origin (if imported)</li> </ul>	
Care And Use Instructions	CMA Engineering Standards Clause 6.5.1	All Samples	<p>Preparation recommendations before initial use (for non-stick coatings, etc.)</p> <p>Maximum oven use temperature (for plastic handle)</p> <p>Surface cleaning and caring advice</p> <p>Advice on tightening of handle fixture</p> <p>Information to avoid misuse of abrasive pad and cleaner</p> <p>Warranty information (if applicable)</p>	
Markings	CMA Standards Chapter 2	All Samples	Measurements of top-of-range cooking utensils & bakeware shall be marked permanently or with temporary labels.	
Verify Label Claims	Visual Check/ Performance Claims	All Samples	The labeling must be valid and comply with all claims.	Claim: Actual:
Adult Tracking Label **If space limitations exist, contact Kohl's Quality Assurance & Product Integrity teams to discuss minimum required information (quality.assurance@kohls.com)	Kohl's Requirement	All Samples	Can be included on packaging when necessary: Kohl's Assigned Factory Number Manufacture Date (Month/Year) UPC #	

Chemical Disclosure / Labeling in Cookware	CA AB-1200 article 2 (mod) / CO HB-22 1345 sec. 25-15-604 (2)a-f (mod)/ Visual	All Samples	<p>Cookware chemical disclosure labeling provided for CA AB-1200 and/or CO HB-22-1345 compliance pertaining to handles or any surface that comes into contact with food, foodstuff, or beverages shall meet the following:</p> <p>1) List of chemicals is introduced by the phrase ""The product contains: ""</p> <p>2) List of chemicals is followed by the phrase ""For more information about chemicals in this product, visit: / Para obtener más información sobre las sustancias químicas de este producto, visite: ""www.kohls.com/chemicaldisclosure"" and QR code which leads to that web address</p> <p>3) Lab must verify that all disclosed chemicals are present on the Kohl's TRF</p> <p>4) Labeling must be incorporated into retail packaging or printed on a sticker / hangtag which is affixed to retail packaging or the product. Fold out ""butterfly"" labels are acceptable. Printing on the inside of retail packaging or an information insert are not acceptable formats</p> <p>See example below:</p> <div data-bbox="786 1020 1227 1182" style="border: 1px solid black; padding: 5px;"> <p><b>This Product Contains:</b>  (Este producto contiene:) Chemical 1, Chemical 2, Chemical 3, Chemical 4, etc.  For more information about chemicals in this product, visit: (Para obtener más información sobre las sustancias químicas de este producto, visite:) <a href="https://cs.kohls.com/app/answers/detail/a_id/4243?cid=ISMQR246&amp;utm_medium=ISM">https://cs.kohls.com/app/answers/detail/a_id/4243?cid=ISMQR246&amp;utm_medium=ISM</a></p>  </div>	
<b>PHYSICAL CHARACTERISTICS</b>				
Capacity (fl. oz. / mL)	FPLA/ UPLR	3 Samples	As claimed/ measured (+3%/ -0%)	Claim: Actual:
Size	FPLA/ UPLR	3 Samples	As claimed/ measured (+3%/ -0%)	Claim: Actual:
Flatness Of Pots & Pans Bottoms	CMA Standards Clause 6.4	All Samples	Flatness on all contact surfaces should be +/- 0.0625" (1.6mm).	
Handle Position On Cookware with Stick Handles	CMA Standards Clause 3.3.4	1 Sample	The handle shall have a minimum clearance of 1-3/16" (30mm) above the base.	
<b>CONSTRUCTION &amp; WORKMANSHIP</b>				
Kohl's Workmanship Review	Visual Check / Actual Use	1 Sample	<p>All components shall be provided as claimed and shall not be deformed or fractured.</p> <p>All hardware shall be provided</p> <p>All welds shall be smoothly finished and free from pits and splatter</p> <p>All components shall not contain any burrs or sharp edges (test by touch or sight)</p> <p>Product shall not contain any loose components or unsecured fastening where rigidity is required</p>	
<b>PERFORMANCE</b>				

Oven Safe (If Claimed)	Temperature	1 Sample	Place empty in preheated 350° F (177° C) oven, (include lid), remove @ 1 hour, cool. Repeat if claimed oven safe temperature is higher than 350° F (177° C). Shall exhibit no cracking, crazing, melting, deformation, or color change.	
Thermal Conductivity (Dry)	Std. Measure	1 Sample	All points on cooking surface shall be within + 25°F (+ 14°C) when removed from heat source	
*Dry Boil Test (Applicable To Utensil With Encapsulated & Brazed Bottoms Only)	CMA Standards Clause 7.9	1 Sample	No separation of the base or molten metal escaping from the base. 10 minutes: for pans > 1.5 quart / pans with copper bottoms > 9" in diameter	
*Thermal Shock Resistance (Applicable To Glass)	CMA Standards Clause 6.3	1 Sample	Shall not have cracks, chips or faults that could cause the part to break or fractured.	
Dishwasher Safe (If Claimed)	Kohl's TM 57	3 Samples	Dishwasher / detergent below defined cycles - no color change or adverse effects. Report if label is not durably marked.	
			Tier 1	5 cycles
			Tier 2	10 cycles
Effects of Handwashing (If Claimed)	Kohl's TM 32	3 Samples	No color change and no adverse effects – Hand wash with detergent for below defined cycles	
			Tier 1	5 cycles
			Tier 2	10 cycles
Temperature Of Grip While Boiling Water (Stove Top Cookware Only)	Std. Measure	1 Sample	Shall be less than 190°F (88°C) unless handle warning is provided	
Warping (Cookie Sheets, Muffin Sheets, etc)	Actual Use	1 Sample	No visible warping at below defined temperature 400° F (205° C) in oven test as above (1 Hour, Cool, Repeat)	
			Tier 1	350° F (177° C)
			Tier 2	400° F (205° C)
Stain Resistance	Actual Use	1 Sample	No objectionable stain after below timing placement: - Ketchup, mustard & cooking oil - Red wine, grape juice & coffee	
			Tier 1	1 hour
			Tier 2	2 hours
Cleanability	Visual Check	1 Sample	Bring tomato sauce (25-50% of the capacity) to boil and let simmer over low heat for 30 min. Avoid dry boil. Empty and clean with non-abrasive cleanser and scouring pad or as directed. Repeat the number of times as below consecutively. There shall be no visual damage to the finish	
			Tier 1	3 times
			Tier 2	4 times
<b>PERFORMANCE - HANDLE ASSEMBLY AND FITTINGS</b>				

Assembly Strength (Stick Handle / Single Handle Pans)	CMA Standards Clause 3.3.1 (Mod.)	1 Sample	Shall support 8.8 lbs. (4kg) weight or below weight for 1 minute in cold & hot conditions without fracture	
			Tier 1	1.5 times volume capacity weight
			Tier 2	2 times volume capacity weight
Assemblies Strength (Side Handle / Stick Handles With Helper Handles)	CMA Standards Clause 3.3.2 (Mod.)	1 Sample	Shall support the below weight for 1 minute in cold & hot conditions without fracture	
			Tier 1	1.5 times volume capacity weight
			Tier 2	2 times volume capacity weight
Torque Resistance (Applicable To Stick Handle Pan Only)	CMA Standards Clause 3.3.3 (Mod.)	1 Sample	Shall resist a torque of 40 inch without causing greater than below degree deflection or damage to handle or fixing system.	
			Tier 1	10 degrees
			Tier 2	8 degrees
Handle Fatigue Resistance	CMA Standards Clause 3.3.5 (Mod.)	1 Sample	The handle and its fixing shall resist 15,000 cycles of lifting and lowering under below defined weight.	
			Tier 1	1.5 times volume capacity weight
			Tier 2	2 times volume capacity weight
			For cooking vessels of 12 quarts and larger with welded, riveted or fixture side handles, in recognition of the pans intended use, the cycle test shall be 1,000 cycles with a weight equivalent of the weight of water to be contained by the pan loading the vessels. Distortion of the handle or side of the pan which results in cracking or deformation of the finish is allowable.	
Strength Test (Applicable To Plastic Handle Only) (Upon Request)	CMA Standards Clause 4.3 ASTM D 790	1 Sample	The measured flexural strength shall be reported	
Flame / Softening test (Applicable To Thermoplastics Only)	CMA Standards Clause 4.4 ASTM D 635	1 Sample	The sample shall withstand 1" Bunsen burner without softening or becoming sticky	
Knob Assemblies	CMA Standards Clause 3.3.8	1 Sample	Knob shall withstand 350°F for 1 hour or the recommended use temperature without functional failure	
Impact Resistance (Lid Knob/Handle)	EN 12983 Clause 8.1.4	1 Sample	The exterior enamel shall resist a minimum Impact of 20N, showing no damage greater Than 2mm after 25h when tested in Accordance to ISO4532	

**PERFORMANCE NON STICK COATING**

*Abrasion Resistance Test	CMA Standards Clause 21.1.1	1 Sample	The test time needed to exposure an area of 1/2 square inch of substrate in the test area shall be reported.	
*Scratch Resistance	CMA Standards 2007 Version Clause 21.3	1 Sample	The pressure needed to remove □ 90% of the scratch line shall be reported.	
*Cold Slip Angle	CMA Standards Clause 21.1.4.2	1 Sample	4-10□□□ Silicone 5-15□□□ PTFE	
*Resistance To Chemical Attack	CMA Standards Clause 21.1.5.1 & 21.1.5.2	5 Samples	Soak test: No color change, cloudiness, loss of adhesion or exposure of substrate. Resistance to salt and acid test: accumulative area of blister < 0.5inch <sup>2</sup>	
*Egg Test	CMA Standards Clause 21.2.1	1 Sample	There shall be no trace of solid material after frying an egg without fat or oil at 300□F to 350□F	
*Adhesion Resistance To Burnt Milk	CMA Standards Clause 21.2.2	1 Sample	There shall be complete removal of film material after evaporating and carbonizing 1 cup of milk to a brown film.	
<b>PERFORMANCE- NON STICK BAKEWARE COATINGS</b>				
*Barbeque Chicken Roasting Test	CMA Standards Clause 21.3.1	1 Sample	Release property: Meat can be easily removed from pan Staining property: None or slight Cleaning: Easy to clean Durability No visible damage or coating removal	
*Baked Goods Release Test	CMA Standards Clause 21.3.2	1 Sample	The rating of the baked goods release shall be reported At least below percentage of the baked good must be released cleanly from the coating	
			Tier 1	75%
			Tier 2	90%
<b>ANALYTICAL</b>				
*Lead In Scrapable Surface Coating	ASTM E1613/E1645	1 Sample	≤90 ppm (0.009% by weight). (CPSA – 16CFR 1303)	
*Toxicology (Plastics and polymeric coating)	21 CFR 175/177	1 Sample	Must comply with applicable requirements of FDA	
*Bisphenol A (BPA) Content	Solvent extraction and analysis by LC/MS  Scope: 1) Reusable food or beverage containers (ie, food contact), including lid, cup, etc). 2) Sports bottles	All Samples & All Colorways	<b>Shall not contain any detectable level of Bisphenol A</b>  Remark: Actual testing shall be done on all accessible plasticized material including coatings and plastic.  Exempt Materials: Glass, Metal, Wood, Textiles.  Plastic layer or coating on exempt material shall need to be tested. Vendor shall be responsible for compliance of other materials.	

* CA Prop 65	Refer to Protocol 1300	All Samples	All samples shall be reviewed against the requirements of California Proposition 65 to determine if additional testing or labeling is required	
*Leachable Lead And Cadmium On Food Contact Surface (FDA) (If Applicable)	AOAC 973.32 ASTM C738	6 Samples	Pb: <input type="checkbox"/> 1.0 ppm (large hollowware) <input type="checkbox"/> 2.0 ppm (small hollowware) <input type="checkbox"/> 0.5 ppm (cups / mugs / pitchers) <input type="checkbox"/> 3.0 ppm (flatware) Cd: <input type="checkbox"/> 0.25 ppm (large hollowware) <input type="checkbox"/> 0.5 ppm (small hollowware) <input type="checkbox"/> 0.5 ppm (flatware)	
*PFAS Supplemental Protocol (1600)	Refer to Protocol 1600	All Samples	All samples shall be reviewed against the requirements of PFAS Supplement Protocol to determine if additional testing or labeling is required	
Total Lead	Metal: CPSC-CH-E1001-08.3 Non Metal: CPSC-CH-E1002-08.3 Surface Coating: CPSC-CH-E1003-09.1	1 Sample	90ppm Minnesota 325E.3892 (HF 2310)  Products preempted by federal & state law (e.g., CPSC, FDA, etc) are exempt from testing.  Product exemptions for CPSC (16 CFR 1500.91 (d) and (e), 16 CFR 1500.88 and 16 CFR 1252)	
Total Cadmium	Substrate & Surface Coating: EPA or ASTM method from AFIRM or CPSC methods	1 Sample	40ppm (children) Washington State CHCC	
Total Cadmium	Substrate & Surface Coating: EPA or ASTM method from AFIRM or CPSC methods	1 Sample	75ppm Minnesota 325E.3892 (HF 2310)  Product Exemptions by federal & state law (e.g., CPSC, FDA, etc) are exempt from testing.	
Food Contact Supplemental Protocol (State Regulations Only)	Refer to Protocol 1800	All Samples	All samples shall be reviewed against the requirements of Food Contact Supplemental Protocol (State Regulation Only) to determine if additional testing or labeling is required	
<b>STAINLESS STEEL (IF CLAIMED &amp; FOOD CONTACT ONLY )</b>				
<b>Claimed Chromium Content &lt; 16%</b>				
* Stainless Steel Composition (Applicable To Food Contact Surfaces Only)	Acid Digestion / ICP / ASTM E1019	1 Sample	Stainless steel composition (Carbon, Manganese, Phosphorus, Sulfur, Silicon, Chromium, Nickel, Nitrogen, Molybdenum) test is to be conducted.	
* Stainless Steel - Resistance To Corrosion (Applicable if result of composition test does not meet the claimed specification)	ASTM B117 (Mod.)	1 Sample	Shall withstand 48 Hours in 1% Salt Spray (Fog) with no major visual change, pitting or corrosion.	
<b>Claimed Chromium Content ≥ 16%</b>				
*FDA – GRAS Stainless Steel (Applicable To Food Contact Surfaces Only)	Acid Digestion / ICP / ASTM E1019	1 Sample	Shall meet Stainless Steel Claim (Chromium and Nickel content) AND Minimum of 16% Chromium to be considered FDA GRAS.	

*Stainless Steel - Resistance To Corrosion (Applicable if product does not comply GRAS test)	ASTM B117 (Mod.)	1 Sample	Shall withstand 48 Hours in 1% Salt Spray (Fog) with no major visual change, pitting or corrosion. Modification = % of salt spray
*GRAS evaluation	FDA Generally Recognized as Safe (GRAS) Guidelines/FDA Opinion / ASTM E1086-14 / ASTM E415-17 / CPSD-GB00003-MTHD / CPSD-AN00295-MTHD	1 Sample	Metal intended to come into contact with food shall meet FDA GRAS requirement. Metal composition is conducted and evaluated if it is GRAS. Must meet 16% Chromium, if not conduct stainless steel - resistance to corrosion testing

**CAST IRON WITH ENAMEL**

**PERFORMANCE**

*Thermal Shock Resistance (Applicable To Glass Cover Only)	CMA Standards Clause 6.3 ASTM C 149	1 Sample	Shall not have cracks, chips or faults that could cause the part to break or fractured.	
*Thermal Shock Resistance (Applicable To Porcelain Enamel Finishes On Steel And Iron Only)	CMA Standards Clause 17.2.3 ASTM C 385 (Mod.)	1 Sample	Shall have an average rating of below defined cycles.	
			Tier 1	Tier 2
			Multi-Coated 3 Cycles	5 cycles
			Single Coated 7 cycles	10 cycles
*Surface Durability (Applicable To Porcelain Enamel Finishes Only)	CMA Standards Ch. 16 & 17 ASTM C 283	Varies	Aluminum Cookware Acid solubility<15 mg/sq. inch Alkali resistance<15 mg/sq. inch Steel or Iron Cookware and Bakeware Acid solubility<14 mg (multi-coated) Acid solubility<50 mg (single-coated)	

**PRICING AND ADDITIONAL NOTE:**

\*Please refer to Kohl's preferred third party labs for individual pricing and sample size.

\*In addition to this protocol, any products designed for, intended for or appealing primarily to children, requires additional testing per Kohl's Testing Protocol # 601

PROTOCOL VERSION	DESCRIPTION OF CHANGE	Revised By	Approved By
819-0	Initial Release	Simon Leung Oct. 31, 2008	Ro Jain Oct. 31, 2008
819-A	Changed protocol number from 819-0 to 819-A. Changed lead in surface coating to 90ppm from 600ppm, price adjustment	Elizabeth Armstrong April 1, 2010	Ro Jain April 1, 2010

819-B	Added BPA Testing	Elizabeth Armstrong November 11, 2010	Ro Jain November 11, 2010
819.3-C	<ol style="list-style-type: none"> <li>1. Added Oven Safe Test.</li> <li>2. Added Thermal Conductivity (Dry) Test.</li> <li>3. Added Effects of Handwashing Test.</li> <li>4. Added Temperature of Grip Test.</li> <li>5. Added Stain Resistance Test.</li> <li>6. Added Cleanability Test.</li> <li>7. Added Impact Resistance (Lid Knob/Handle) Test</li> <li>8. Updated the Test Method for Lead in Surface Coating.</li> <li>9. Added PTFE Identification and PFOA Migration Tests</li> <li>10. Price Adjustment</li> </ol>	Elaine Smaczniak Sep 18, 2012	Ro Jain Oct 4, 2012
819.3-D	FDA – GRAS Stainless Steel Test, Handle Fatigue Resistance & Dry Boil Test Updated.	John Wong Dec 21, 2012	Rufus Moberly Jan 29, 2013
819.3-E	Separate the test line of Prop 65 to supplementary protocol Updated CMA Tests. FDA – GRAS Stainless Steel Test Updated Added Corrosion Test.	John Wong Jul 18, 2013	Rufus Moberly Jul 23, 2013
819.3-F	Differentiate the performance rating to Tier 1/Tier 2/Tier 3 Updated the package price & working days	Jeetendra Shelatkar Oct 4, 2013	Ro Jain Dec 16, 2013
819.3-G	Updated lead content and resistance to corrosion tests pricing	Candy Chan Jul 30, 2014	Jeetendra Shelatkar Aug. 4, 2014
819.3-H	Renamed in-house methods	Birkoff Chen Sep. 4, 2014	Elaine Smaczniak October 30, 2014
819.3-I	Updated BPA testing to test all accessible components if BPA Free is claimed	Elizabeth Armstrong July 30, 2015	Elizabeth Armstrong July 30, 2015



819.3-J	Added Leachable Lead for Other Metals (Food Contact Only) and Thermal Shock Resistance (Applicable To Porcelain Enamel Finishes On Steel And Iron Only) Updated Flatness Of Pan Bottoms, the test method of Dishwasher safe to Kohl's TM 57, the test clauses of Non-stick coating tests, and Toxicology (Plastics and polymeric coating) and BPA Content Removed Minimum Thickness For Aluminum Cookware and Minimum Thickness For Stainless Steel Cookware	Gigi Au May 23, 2016	Elizabeth Armstrong May 23, 2016
819.3-K	Updated Impact resistance testing method	Elizabeth Armstrong Aug 9, 2018	Elizabeth Armstrong Aug 9, 2018
819.3-L	Updated GRAS Evaluation	Teana Robinette Sept 25, 2018	Teana Robinette Sept 25, 2018
819.3-M	Updated GRAS evaluation for s/s composition	Elizabeth Armstrong Jan 11, 2019	Elizabeth Armstrong Jan 11, 2019
819.3-N	Added POTS to bottom flatness test	Elizabeth Armstrong March 11, 2022	Elizabeth Armstrong March 11, 2022
819.3-O	Added adult tracking label	Elizabeth Armstrong June 24, 2020	Elizabeth Armstrong June 24, 2020
819.3-P	Added Resistance To Scratching on Cooking Surfaces	Elizabeth Armstrong July 23, 2020	Elizabeth Armstrong July 23, 2020
819.3-Q	Removed Resistance To Scratching on Cooking Surfaces	Elizabeth Armstrong March 22, 2021	Elizabeth Armstrong March 22, 2021
819.3-R	Added PFAS and updated tiering	Jackie Deppisch March 2022	Jackie Deppisch March 2022
819.3-S	Removed *PTFE Identification (Non-Stick Coating) *Specific Migration of PFOA (Non-Stick Coating)	Elizabeth Armstrong June 2022	
819.3-T	Updated BPA Content test line	Violet Nelson / Oct. 2023	
819.3-U	Added test lines Total Lead & Total Cadmium (Adults & Childrens)	Violet Nelson / Nov. 2023	
819.3-V	1) Added Chemical Disclosure / Labeling in Cookware test line	Violet Nelson / Dec 2023	
819.3-W	Updated MN Law to include exemptions	Elizabeth Armstrong March 2024	
819.3-X	1) Added new Food Contact Supplemental protocol (1800) requirements	Jackie Deppisch September 2024	