existing	revised bill	remarks
1. Extent of Application This standard applies to a scooter which is a riding instrument with two wheels. But this standard excludes those with non bearing-attached wheels or those run by fuelled motor,	1. Extent of Application This standard defines safety requirements, test methods, and detail indications, etc. But this standard excludes those with non bearing-attached wheels or those run by fuelled motor,	Modification of Words
<Newly established>	2. Related Specifications The specifications shown below comprise some parts of regulations of this standard as quoted in this standard. These quoted specifications should be latest version. KS A 0006 Normal conditions of testing place KS M ISO 868 Plastic and ebonite – measurement of Shore hardness by durometer KS M 3824 Test method of polyurethane thermoplastic elastomer KS D 9502 Testing method of Salt water spray	Statement of related standards
<Newly established>	3. Definition Major terms used in this standard are as follows: 3.1 Scooter A moving instrument which can be moved by the force of kicking with one foot against the ground while one foot on the board. This is composed of more than 2 wheels, one board on which one can place one foot or feet, and a handle for steering. This is also called scooter. 3.2 Foot Plate	Statement of definition

existing	revised bill	remarks
	place one foot or feet.	

Comparison Table of New and Old Standards for Scooter

2. Type Omitted	4. Type Same as existing	
3. Safety Requirements	5. Safety Requirements	
3.1 Outer Appearances 3.1.1 ~ 3.1.2 Omitted 3.1.3 On the plate, there should be no projecting objects which can cause foot injuries. 3.1.4 ~ 3.1.5 Omitted	5. 1 Outer Appearances Same as the existing bill	Modification of Words
3.2 Structures 3.2.1 Handlebar should not exceed the vertical line of the ground contact point of the front wheel, and its skew, when pulled with the power of 300N back and forth for 10 seconds, should be less than 10mm. 3.2.2 Handlebar should not break away when pulled with the power of 300N vertically. 3.2.3 Grip should be covered with coating materials such as Urethane, sponge, etc. and should not break away when pulled with the power of 10N. 3.2.4 ~ 3.2.7 Omitted	5.2 Structures <Deleted> <Deleted> 5.2.1 Grip should be covered with coating materials such as Urethane, sponge, etc. 5.2.2 ~ 5.2.5 Same as the existing bill	KS G 5755 incorporated
3.3 Performances 3.3.1 weight-proof There should be no skews on foot plate, wheels, and folding parts when tested according to 4.2.	5.3 Performances <Deleted>	KS G 5755 incorporated
<Newly established>	5.3.1 Handle Test When tested according to 6.3, there should be no deformation, separation, visible cracks, or faults. 5.3.2 Foot Plate Test	KS G 5755 incorporated

	When tested according to 6.4, there should be no deformation, separation, visible cracks, or faults.	
3.3.2 ~ 3.3.8 Omitted 3.3.9 Grip Retention Strength When tested according to 4.9, grip should not break away.	5.3.3 ~ 5.3.9 Same as the existing bill <Deleted>	KS G 5755 incorporated

existing	revised bill	remarks
3.3.10 Stability of Folding Parts When tested according to 4.10, they should not be folded. 3.3.11 Handle Skew Strength When tested according to 4.11, there should be no abnormalities such as skews. 3.3.12 Braking Power When tested according to 4.12,1, if the weight increases to 12, 15, 18kg, the braking power should increase accordingly and the braking power at weight of less than 15kg should be between 40N and 120N. 3.3.12.2 Hand Brake When tested according to 4.12,2, if the weight increases to 6, 8, 9kg, the braking power should increase accordingly and the braking power at weight of less than 8kg should be between 30N and 80N.	5.3.10 Stability of Folding Parts When tested according to 6.11, there should be no abnormalities in use such as folding, etc. <Specified in 5.3.1> 5.3.11 Braking Power When tested according to 6.12, there should be no movement longer than 7mm.	KS G 5755 incorporated
4. Test Method <Newly established>	6. Test Method 6.1 General Condition of Tests 6.1.1 Temperature and Humidity Conditions of Test Locations	

	Tests should be performed in conditions with the temperature (20±15°C) and humidity (65±20°C) as specified in KS A 0006. 6.1.2 Test Object If not otherwise specified, test object should be a project fully assembled according to manufacturer's user manual. 6.1.3 Tolerance If not otherwise specified, tolerance of power and speed should be ±5%, that of mass ±0.5%, and that of size ±0.5mm.	KS G 5755 incorporated

existing	revised bill	remarks
4.1 Outer Appearances and Structure Can be checked by the naked eye and by touch. For size measurement, use a Vernir Caliper. For force measurement, use push pull gauge, etc.	6.2 Outer Appearances and Structure Can be checked by the naked eye or can be felt by hand. Alternatively, can be checked with some manipulations of the product.	
4.11 Handle Skew Strength Place handle at its furthest position and place a weight of 30 kg at the centre of the handle in the forwards direction of the scooter as shown in [Figure 5] for 5 minutes.	6.3 Handle Test 6.3.1 Handle/Handlebar Compression Test 6.3.1.1 Fix handle at its furthest position according to manufacturer's user manual. 6.3.1.2 Place a static weight of 45kg on the upper centre of the handlebar incrementally for 5 seconds - 10 seconds. 6.3.2 Handle/Handlebar Fatigue Test 6.3.2.1 Fix foot plate and front wheel so that they will not swing right or left.	KS G 5755 incorporated

4.3 Weight-proof Test Place weight of 210kg (20cm x 20cm) vertical to the centre of the upper surface of the foot plate for 10 minutes.	6.3.2.2 Put 7Nm torque at both ends of grip vertically 45° upward/rearward and then downward/forward. 6.3.2.3 Repeat 5,000 cycles of above 6.3.2.2 work while keeping 1 cycle from exceeding 1 second. 6.3.3 Grip/Handle Retention Test Place the weight of 70N on the grip in the axial direction of the handlebar incrementally for 5 seconds - 10 seconds. <Deleted>	

existing	revised bill	remarks
<Newly established>	6.4 Foot plate Test Place a 15cm x 15cm wooden block on the point on the upper surface which is equidistant between front wheel and rear wheel. Place a weight 3 times heavier than the maximum acceptable weight set by the manufacturer, or, if no such maximum weight specified, a static weight of 270kg.	
4.3 Driving Test For forward driving, drive with 700N weight, at 10km/h speed. For reverse driving, drive 2km with 700N, 10km/h.	6.5 Driving Test Drive 15km at 10km/h speed, while placing 700N weight at the centre of gravity of the foot plate.	KS G 5755 incorporated
4.4 Wheel Hardness 4.4.1 Polyurethane Materials 4.4.1.1 Test Piece Thickness of test piece shall be thicker than 6mm so that it will not be affected	6.6 Wheel Hardness 6.6.1 Polyurethane Materials 6.6.1.1 Test Piece Same as the existing bill	

by other materials. If any test piece is not thicker than 6mm, fold it to make it thicker than 6mm. The measured surface of the test piece should be flat and even, having a sufficient space to accommodate the pressure-applying surface of test equipment. 4.4.1.2 Test Equipment Use spring type, hardness test equipment type A as test equipment. In case the hardness measured by this test equipment is above 95, then use durometer specified in KS M 3043 (Test method for measuring plastic hardness by durometer). 4.4.1.3 ~ 4.4.1.5 Omitted 4.4.2 Rubber Material 4.4.2.1 Test Piece Omitted	 6.6.1.2 Test Equipment Use spring type, hardness test equipment type A as test equipment. In case the hardness measured by this test equipment is above 90, then use Type D durometer specified in KS M ISO 868. 6.6.1.3 ~ 6.6.1.5 Same as the existing bill 6.6.2 Rubber Material 4.4.2.1 Test Piece Same as the existing bill	

existing	revised bill	remarks
4.4.2.2 Test Equipment Use spring type hardness test equipment (Shore hardness test equipment) as shown in [Figure 2]. When the pressure-applying surface of this test equipment is in contact with the surface of test piece, the needle pressured by the spring in the hole at the centre of the pressure-applying surface shows the distance rebounded by the rubber surface in graduations.	6.6.2.2 Test Equipment Use spring type hardness test equipment (Shore hardness test equipment) as shown in [Figure 2]. When the pressure-applying surface of this test equipment is in contact with the surface of test piece, the needle pressured by the spring in the hole at the centre of the pressure-applying surface shows the distance rebounded by the rubber surface in graduations.	KS G 5755 incorporated

	a) Pressure-applying surface is a flat and even surface which is vertical to the pressing needle, having a hole which can accommodate and slide the needle as shown in Figure 3. Its diameter should be above 10mm. b) Material of the pressing needle should have anti-wear and anti-corrosion properties and its appearance and size are as shown in Figure 3. The needle should be attached properly at the centre of the hole in the pressure-applying surface. When graduation shows 0, the tip of the needle should protrude 2.49~2.54mm above the pressure-applying surface and when graduation shows 100, the tip of the needle should be placed in line with the pressure-applying surface c) The tolerance of Figure 4 which serves as a guide line for the relationship between graduation, the movement of the pressing needle, and the force of the spring is ±8g. d) Graduation should be evenly marked from 0 to 100.	
4.4.2.3 Test Method Omitted	6.6.2.3 Test Method Same as the existing bill	
4.5 ~ 4.6 Omitted	6.7 ~ 6.8 Same as the existing bill	

existing	revised bill	remarks
4.7 Impact Strength Place a weight of 100kg on foot plate, crash it into a 50mm high, hard sill 3 times at 2m/sec.	6.9 Impact Test 6.9.1 Put the maximum weight set by manufacturer, or, if there is no such set weight, a weight of 90kg on the	KS G 5755 incorporated

	centre of foot plate. 6.9.2 Crash it into a 15cm high, hard sill at 2m/sec. 6.9.3 Repeat above 6.9.2 three times.	
4.8 Drop Strength Place a weight of 500kg on the upper surface of foot plate, then drop the scooter from a 30cm height onto a concrete surface 3 times.	6.10 Drop Test 6.10.1 Put the maximum weight set by the manufacturer, or, if there is no such set weight, a weight of 90kg on the centre of the foot plate. 6.10.2 At a height of 15cm from the floor, drop the scooter with one wheel landed. Then, drop the scooter with the other wheel landed at a height of 30cm. 6.10.3 Repeat above 6.10.2 three times. 6.10.4 With the other wheel, repeat the above 6.10.2 and 6.10.3	
4.9 Grip Retention Strength Activate joint parts like pin, etc. 10 times successively, the pull the grip apart with the force of 10N by using the spring gauge, etc. when there is a possibility of twisted separation, then twist and pull the grip for test purposes.	<Deleted>	
4.10 Safety of Folding Parts Release locking lever and place handle at the furthest position and place a weight of 25kg at the most easily folding point of the upper part of handle for 5 minutes.	6.11 Safety Test of Folding Parts 6.11.1 Stretch scooter to use position as specified in user manual. 6.11.2 Put together scooter for use in the way recommended by manufacture so that the normal folding function should not be hindered (releasing locking lever for folding parts).	

existing	revised bill	remarks

	6.11.3 Place a weight of 880 N at the position related normal folding function in the direction of folding according to manufacturer's manual. Incrementally apply the weight within 5 seconds and keep the weight for 10 seconds. 6.11.4 Repeat the above 6.11.3 five times within 2 minutes. 6.11.5 Fold scooter according to manufacturer's manual. And repeat 6.11.1 ~ 6.11.3 one more time.	KS G 5755 incorporated
4.12 Braking Power 4.12.1 Foot Brake Place a weight of 12kg, 15kg, and 18kg onto scooter and foot brake respectively and measure the force of the wheel's contact direction with the forwarding and turning direction as shown in [Figure 6]. The measurement method is to set the maximum force for wheels to move and turn 45°, and regard the average of the 3 times measured values per each weight as the test result 4.12.2 Hand Brake As shown in [Figure 7], fix scooter in reverse and apply the weight from the position of 25mm from the end of the	6.12 Brake Test 6.12.1 Hand Brake Test 6.12.1.1 Place scooter on a 10° skewed flat surface. 6.12.1.2 Place a weight of 50kg at the centre of the foot plate in the vertical direction from the horizontal surface. 6.12.1.3 On the lever adjusted for used in the way that manufacturer recommends, or if there is no such recommended place, at the position of 25mm from the end of the hand brake, apply the force of 67 N to the hand brake lever in the vertical direction from the handle grip part. Note: in this, the force of 67 N is based on the grip power of a 5 year old child. 6.12.1.4 Observe and take note of any change that may occur 6.12. 2 Foot Brake Test 6.12.2.1 Place scooter on a 10° skewed flat surface. 6.12.2.2 Place a weight of 14kg at the	

hand brake to the hand brake lever in the vertical direction from the handle grip part. Then measure the force of wheel's contact direction with the forwarding and turning direction. Measurement method is same as "4.12.1", but the weights differ as 6, 8, 9kg.	centre of the foot plate in the vertical direction from the horizontal surface. 6.12.2.3 Apply a static weight of 80 N to the foot brake 6.12.2.4 Observe and take note of any change that may occur 6.12.2.5 Place a weight of 70kg on the foot plate and a weight of 40kg on the foot brake, and repeat 6.12.2.1 ~ 6.12.2.4.	

existing	revised bill	remarks
5 Test method Omitted 6. Indication Details 6.1 Indication (Omitted)	7. Test Method Same as the existing bill 8. Indication Details 8.1 Indication Same as the existing bill	The warnings and cautions are intensified
6.2 Cautions Regarding Use Be sure to indicate the following on the product or minimum package unit. 6.2.1 Be sure to wear safety protection gears (Helmet, Knee and Elbow Protector, Wrist Protector, etc.) when riding scooter. 6.2.2 Do not ride scooter on slippery surfaces or when it is raining and/or snowing. 6.2.3 Do not ride scooter on the driveway, places with busy traffic, or other unsafe places	6.10 Cautions Regarding Use 6.10.1 Be sure to indicate the following on the product or minimum package unit in a way that such indication will not be easily erased and will be easily understood by consumers. 8.2.1 Warning Be sure to place below pictogram which shows the meaning of 'Warning! Be sure to wear safety protection gears when riding scooter." On each product in a way that such pictogram will not be easily erased.	

	 8.2.2 Cautions 1) Be sure to wear safety protection gears (Helmet, Knee and Elbow Protector, Wrist Protector, etc.) when riding scooter. 2) Do not ride scooter on slippery surfaces or when it is raining and/or snowing. 3) Do not ride scooter on the driveway, places with busy traffic, or other unsafe places 4) Do not ride scooter on paved roads or driveways where there are possibilities of accidents for the rider and other persons 5) Children under 8 years should be supervised by an adult when they ride scooter 6) Do not ride scooter on wet or uneven surfaces.	
6.3 User's Manual Be sure to show the following information in easy-to-understand way. 6.3.1 Be sure to check Safety Conditions before riding 6.3.2 Do not attempt unsafe skills like jumps, etc. 6.3.3 Do not perform arbitrary or illegal rebuilding	8.4 User's Manual Same as the existing bill 8.4.1 ~ 8.4.3 Same as the existing bill	

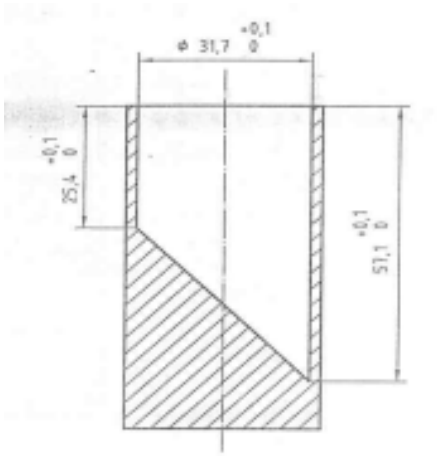
6.3.4 Other necessary items (Non-use in unsafe places, compliance with traffic laws)	8.4.4 Be sure to wear safety protection gears (Helmet, Knee and Elbow Protector, Wrist Protector, etc.) when riding scooter. 8.4.5 Same as the existing bill	

□ 크레용·크레파스 신·구기준안 대비표

현 행	개정(안)	비 고
1. 적용범위 (생략)	**1. 적용범위** (현행과 같음)	
2. 관련규격 (생략) **KS A 0006** 시험장소의 표준상태 **KS A 0011** 물체색의 색이름 **KS A 3251-1** 데이터의 통계적인 해석방법 - **제1부** : 데이터의 통계적 기술 **KS M 0001** 화학분석 및 시험 방법에 대한 통칙 **KS M 0016** 원자흡광 분석방법 통칙 **KS M 7602** 거름종이(화학분석용) **KS M ISO 6353-2** 화학분석용 시약 **제2부** : 규격 제1집 < 신 설 > < 신 설 > 완구 안전검사기준 - **제2부** : 기계적,물리적 특성 완구 안전검사기준 - **제4부** : 유해원소의 용출 < 신 설 > < 신 설 > **ASTM F 963** Standard Consumer Safety Specification on Toy Safety < 신 설 > < 신 설 >	**2. 관련규격** **KS A 0006** 시험장소의 표준상태 **KS A 0011** 물체색의 색이름 **KS A 3251-1** 데이터의 통계적인 해석방법 - **제1부** : 데이터의 통계적 기술 **KS M 0001** 화학분석 및 시험 방법에 대한 통칙 **KS M 0016** 원자흡광 분석방법 통칙 **KS M 7602** 거름종이(화학분석용) **KS M ISO 6353-2** 화학분석용 시약 **제2부** : 규격 제1집 **학용품 안전검정기준 제15부** 14세까지의 어린이용 필가마킹용구의 캡- 안전요건 **KS ISO 13301** 관능검사 -방법론 - 삼자택일(3-AFC)과정을 통한 냄새, 맛 그리고 향미 검출을 위한 지침서 완구 안전검사기준 - **제2부** : 기계적,물리적 특성 완구 안전검사기준 - **제4부** : 유해원소의 용출 식품의약품안전청 고시 식품첨가물 공전 식품의약품안전청 고시 의약품 등의 독성시험기준 **ASTM F** 963 Standard Consumer Safety Specification on Toy Safety **ANSI Z356.1** American National Standard for Art and Craft Materials - Crayons **ASTM D** 4236 Standard Practice for Labeling Art Materials for Chronic Health Hazards	신규 적용 되는 규격·기준 표시
3. 종류 (생략)	**3. 종류** (현행과 같음)	
4. 색명 (생략)	**4. 색명** (현행과 같음)	

현 행	개정(안)	비 고
5. 안전요구사항 (생략) **5.1 유해물질** (생략)	**5. 안전요구사항** (현행과 같음) **5.1 유해물질** (현행과 같음)	
5.2 도안 및 문장 (생략)	**5.2 도안 및 문장** (현행과 같음)	
5.3 향료 사용하지 않아야 한다.	**5.3 향료** 향료는 식품의약품안전청의 식품첨가물공전 제4. 품목별 규격 및 기준 가.화학적합성품 중 424.합성착향료에 수재된 품목 및 Codex, FEMA (Flavor and Extract Manufacturer's Associations), IOFI(International Organization of the Flavour Industry) 등 국제적으로 식품향료로서 통용되는 것으로 안전성에 문제없는 것이어야 한다.	**사용가능 향료 범위 설정**
< 신 설 >	**5.4 급성 경구독성(향기나는 크레용·크레파스에 한한다.)** 6.3의 시험에서 경구독성값(LD_{50})이 2,000 mg/kg 이상이어야 한다.	**유 해 성 확인 요건 신설**
< 신 설 >	**5.4 크레용·크레파스 및 그 개별 포장물의 크기(향기나는 크레용·크레파스에 한한다.)** 크레용·크레파스의 내용물을 모두 사용하더라도 **6.4**(작은 부품 시험)에 따라 시험했을 때 어떤 방향에서도 작은 부품 원통 안에 완전히 들어가서는 안 된다.	**질식 제한 요건 신설**
6. 시험방법 유해물질의 시험은 다음과 같이 실시한다. **6.1 ~ 6.4** (생략)	**6. 시험방법** **6.1 유해물질의 시험** **6.1.1 ~ 6.1.4** (생략)	
< 신 설 >	**6.2 향료** 향기나는 크레용·크레파스는 사용한 향료에 대한 자료를 제출받아 5.3의 규정에 적합한 지를 확인한다. 향료 사용 여부에 대한 확인이 필요한 경우에는 **KS ISO 13301** 을 따른다.	**향료 확인 방법 신설**

현 행	개정(안)	비 고
< 신 설 >	**6.3 급성독성시험(Acute toxicity test)** **6.3.1 실험동물** ① 종(계통) : SPF SD계 랫드(SD rat) ② 성별 및 입수시 주령 : 암·수컷 4주령 ③ 검역 및 순화기간 : 실험실에 순화시키는 기간을 약 1주일 두며, 그 기간 중 일반증상을 관찰하여 건강한 동물만을 시험에 사용한다. ④ 경구 투여시 체중범위 및 주령 : 수컷 110±5g, 암컷 95±5g의 5주령 ⑤ 사용동물수 : 60 마리(예비시험 포함) ⑥ 군 분리 및 동물식별 : 실험에 사용된 건강한 동물의 체중을 측정하여 각 군의 평균 체중이 거의 일치하도록 군 분리를 하고, 개체식별은 피모색소(피크린산) 마킹법과 사육상자별 TAG 표시법을 이용한다. **6.3.2 시험방법** ① 식품의약품 안전청고시 - 의약품 등의 독성시험기준에 따른다. ② 투여방법 가) 투여 경도 : 경구 투여(Oral) 나) 투여 횟수 및 투여 기간 : 1회 투여 다) 투여 부위 및 투여법 : 랫드에 존데를 이용하여 강제 경구투여 한다. 라) 투여량 : 최고농도를 5g/kg을 최고농도로 설정하고 투여량은 최고농도를 투여직전의 체중을 기준으로 하여 10ml/kg으로 설정하였으며, 공비를 0.2로 4개의 투여군과 대조군을 설정한다. ③ 임상증상 관찰 : 투여 당일은 12시간에서 매시간 일반상태를 관찰하고, 투여 다음날부터 14일까지는 매일 1회씩 일반상태의 변화, 중독증상, 운동성, 외관, 자율신경 및 사망동물의 유무를 주의깊게 관찰한다.(참고사항) ④ 체중 측정 : 모든 동물에 대하여 투여직전과 투여 7일후 및 부검 직전인 14일에 3회 체중을 측정한다.(참고사항) **※ 참고 : 식품의약품안전청 고시 - 의약품 등의 독성시험기준**	독성시험방법 신설

현 행	개정(안)	비 고
< 신 설 >	**6.4 작은 부품 시험** ① 크레용 또는 크레파스 및 분리가능한 개별 포장물을 그림 1에서 보여지는 것과 같은 실린더에 압력을 가하지 않고 넣은 상태에서 실린더 내에 완전히 들어가는지를 확인한다. ② 실린더내에 완전히 들어가는 개별 포장물이 있을 경우에는 **학용품 안전검정기준 제15부** 14세이하 어린이용 필기·마킹용구의 캡의 안전요건에 적합한 지를 확인하다. 치수 : mm  그림 1 작은 부품 실린더	작은부품 시험방법 신설
7. 검사방법 **7.1 검사로트의 구성** 검사로트는 크레용과 크레파스로 구별하고 색상별(색명)로 구성한다. 이때 색명은 표 1에 제시된 것에 한정하지 않는다. 또한, 정기검사를 할 때에는 주요색(하양, 검정, 빨강, 갈색, 주황, 노랑, 초록, 파랑, 보라, 자주, 황토색, 남색, 풀색, 군청, 심홍) 및 금속색(금색, 은색, 크롬)의 18색상을 기본색상으로 로트를 구성하여 검사하고, 검사결과 불합격되는 색상이 하나라도 있는 경우에는 모든 색상에 대하여 검사한다. **7.2~7.3** (생략)	**7. 검사방법** **7.1 검사로트의 구성** (현행과 같음) **7.2~7.3** (현행과 같음)	

현 행	개정(안)	비 고
8. 표시 사항 **8.1 ~ 8.2** (생략)	**8. 표시 사항** **8.1 ~ 8.2** (현행과 같음)	
< 신 설 >	**8.3 경고(향기나는 크레파스에 한한다.)** 제품의 최소단위포장에 다음의 "36개월 미만의 어린이는 사용할 수 없음"을 나타내는 경고 그림을 쉽게 지워지지 않는 방법으로 표시하여야 한다.  	질식에 대한 경고표시 신설