

**KENYA STANDARD**

**ICS** **KS 2746-1\_2017**

Travel bags-Specification  
Part 1: Suitcase type of travel bags

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In order to keep abreast of progress in industry, Kenya Standards shall be regularly reviewed. Suggestions for improvements to published standards, addressed to the Managing Director, Kenya Bureau of Standards, are welcome.

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**KENYA STANDARD**

Travel bags — Specification (First Edition)  
Part 1: Suitcase type of travel bags

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**Foreword**

This First Edition of this Kenya Standard was prepared by the Technical Committee on Ready Made Garments under the guidance of the Standards Projects Committee and it is in accordance with the procedures of Kenya Bureau of Standards

A sizeable number of passengers have been reported in the recent past as having used air transport in Kenya. Coupled with the others travelling to particular destinations normally by road, rail, air or sea transportation who might carry personal items in suit cases, demand for suitcases will continue to rise. Handling of the suit cases before embarking, while travelling using any particular mode of transportation and after disembarking subjects the suit case to various adverse effects which might interfere with serviceability of the item. This Kenya standard therefore has been developed with a view to establish quality requirements for suit cases such as life performance, preferred sizes related to optimum carrying capacities, packaging and labeling requirements among others

During the preparation of this Kenya standard the Technical committee relied on data on suit cases from local manufacturers and those imported from overseas

Acknowledgement is hereby made for the assistance received from these sources.

## Travel bags — Specification (First Edition)

## Part 1: Suitcase type travel bags

## 1 Scope

This Part 1 of this Kenya standard specifies requirements for suit case type travel bags of different composition and design including fabric material type, dimensions, accessories, performance, packaging and labelling requirements

## 2 Normative References

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies:

- 2.1 KS 665: Specification for textile labels
- 2.2 KS ISO 1833 -27 Textiles- Quantitative chemical analysis
- 2.3 KS ISO 11827 Textiles-Composition testing-Identification of fibres
- 2.4 KS ISO 2076 Textiles-Man made fibres-Generic names
- 2.5 KS ISO 6938 Textiles-Natural fibres-Generic names
- 2.6 KS 212 Definitions of general terms, basic weaves and plans for drafting
- 2.7 KS ISO 3759 Textiles-Preparation, marking and measuring of fabric specimens and garments in tests for determination of dimensional change
- 2.8 KS ISO 6330 Textiles-Domestic washing and drying procedures for textiles testing
- 2.9 KS ISO 5077 Textiles-Determination of dimensional change in washing and drying
- 2.10 KS ISO 3801 Textiles-Woven fabrics-Determination of mass per unit length and mass per unit area
- 2.11 KS ISO 13934-1 Textiles-Tensile properties of fabrics-Part 1: Determination of maximum force and elongation at maximum force using the strip method
- 2.12.1 KS 665 Specification for textile labels
- 2.13 KS 212 Definitions of general terms, basic weaves and plans for drafting
- 2.14 KS 2659 Packaging of textile products-Code of practice
- 2.15 KS 2660 School bags-Specification
- 2.16 KS 479 -2 Sewing threads-Part 2: sewing threads made wholly or partly from fibres
- 2.17 KS ISO 3081 Textiles –Woven fabrics-Determination of mass per unit length and mass per unit area
- 2.18 KS ISO 13935-1&2 Seam Tensile properties
- 2.19 Part 1: Strip test
- 2.20 Part 2: Grab test
- 2.21 EAS 223 Zippers-Specification
- 2.22 KS ISO 6941 Textile fabrics-Burning behavior-Measurement of spread properties of vertically oriented specimens
- 2.23 KS ISO 6940 Textile fabrics-Burning behavior-Determination of ease of ignition
- 2.24 KS 12947-2 Textiles-Determination of abrasion resistance of fabrics by the martindale method- Part 2: Determination of specimen breakdown
- 2.25 KS 214-3 Specifications for woven linings Part 3 woven lining for mens and boys apparel
- 2.26 KS 628 Specifications for elastic webbings
- 2.27 KS ISO 811 Textile fabrics-Determination of resistance to water penetration
- 2.28 KS ISO 105 B02 Textiles-Colour fastness Part B02 Determination of colour fastness to artificial light: Xenon arc fading lamp test
- 2.29 KS ISO 105 B04 Textiles-Colour fastness Part B04 Determination of colour fastness to weathering: Xenon arc fading lamp test
- 2.30 KS ISO 105 E04 Textiles-Tests for colour fastness Part E04 Colour fastness to perspiration
- 2.31 KS ISO 105 C10 Textiles-Colour fastness Part C10 Colour fastness to washing with soap or soap with soda
- 2.32 KS ISO 105 E01 Textiles-Tests for colour fastness Part E01 Colour fastness to water
- 2.33 KS ISO 105 X12 Textiles-Tests for colour fastness Part X12 Colour fastness to rubbing
- 2.34 KS 944-1 Specification for woven bags (100 percent) for green tea leaves Part 1: Three dimensional type
- 2.35 KS ISO 898-1 Mechanical properties of fasteners made of carbon steel and alloy steel

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## 3. Terms and Definitions

For the purposes of this standard the following definitions shall apply:

### 3.1 Travel

To go on a journey to a particular place, usually using a form of transportation such as by road, rail, air or water

### 3.2 Travel bag

A bag usually made out of plastics, leather or textile material and of specified shape and dimensions used for carrying personal belongings while travelling such as hand bag or suit case

#### 3.2.1 Suitcase type of travel bag

A portable cuboid shaped case designed to hold travellers clothing and personal belongings, referred to as 'suit case' in this Kenya Standard

## 4 Requirements

### 4.1 Materials

#### 4.1.1 Textile Fabric

##### 4.1.1.1 Fabric Structure

The fabric structure shall be woven or knitted in accordance with the descriptions given in KS 212 and KS ISO 8388 respectively.

##### 4.1.1.2 Fibre Composition and proportion

The fibre composition and proportion of the fabric shall be any of the textile fibres complying with the descriptions given in KS ISO 2076 and KS ISO 6938 and when tested in accordance with KS ISO 11827 and KS ISO 1833,1-28

##### 4.1.2 Leather

The grain of the leather for making up the suitcase type of travel bag shall be free from flays and grain defects that affect its appearance in accordance with KS . The flesh side of the leather shall have been shaved and shall be free from any cuts and loose flesh. The leather shall be firm, pliable and shall not be pipy. The colour of the leather and the nature of the grain surface (whether smooth or printed) shall be as specified in tables 1 and 2

##### 4.1.3 Plastics

The plastic material making up the suit case type of travel bag shall be hardened and stiffened able to withstand strains, stresses, and deformations caused by loading, handling and changes in temperature. The plastic material shall also comply with the requirements in Tables 1 and 2

##### 4.2 Physical characteristics

The physical characteristics of suit case including mass per unit area, tensile strength, tear strength, seam strength, water resistance and life performance (drop tests) shall be as specified in table 1

Table 1:Physical Requirements

SI No	Parameter		Requirement		Test Method
1	Tensile strength in N, min	Warp	445		KS ISO 13934-1
		Weft	445		
2	Tear resistance in N, min	Warp	63		KS ISO 13937-1
		Weft	52		
3	Bursting Strength, in Kpa min		160		KS ISO 13938,1&2
4	Seam strength in N, min		235		KS ISO 13936-1
5	Water resistance, mass in g, min		0.5		KS ISO 22958
6	Abrasion resistance, number of rubs, min		1250		KS ISO 12947-2
7	Seam Slippage, at 3mm opening, load in N, min	Warp	100		KS ISO 13936-2
		Weft	100		
8	Stitches per cm		2-3		Annex B
9	Mass in g/m <sup>2</sup> -Fabric, min		330		KS ISO 3801
10	Mass in g/m <sup>2</sup> -Lining		33.1		
11	Drop test based on 8-25 kg load, at 1 metre height		Pass		Annex C
12	Lifting Handle attachment strength, in N min		305		KS 944-1
13	Physical requirements of zippers, in N min		Puller attachment	200	EAS 223
			Closed end test	80	EAS 223
			Top stop test	90	EAS 223
			Open end fastener box test	90	EAS 223
			Lateral strength test	250	EAS 223
			Lateral strength of open end	90	EAS 223
			Slider locking test	25	EAS 223

#### 4.3 Dimensional Stability

The dimensional change after five washings of the fabric constituting the travel bag shall not be greater than 3 % when tested in accordance with KS ISO 3759, KS ISO 6630-4N and KS ISO 5077

#### 4.4 Restricted Colourants

The fabrics constituting the suit case type of travel bags shall be free from restricted colourants listed and when tested in accordance with KS ISO 14632 Part 1 and 3, KS ISO 16373-2&3

Colourants on textiles shall be identified and classified in accordance with KS ISO 16373-1

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### 4.5 Colour Fastness Requirements

Colour fastness requirements for suit case type of travel bags shall be as specified in table 2

Table 2: Colourfastness requirements for suitcase

SI No	Agency		Rating, Min		Test Method
			Colour change	Staining	
1	Light		5		KS ISO 105 B02
2	Weathering		5		KS ISO105 B04
3	Water spotting		4	4	KS ISO 105
4	Water		4	4	KS ISO105 E01
5	Perspiration	Acid	4	4	KS ISO 105 E 04
		Alkali	4	4	
6	Rubbing	Dry	4		KS ISO 105 X12
		Wet	4		

### 4.6 Design and Construction

#### 4.6.1 Size codes and Dimensions

The dimensions of suit case type of travel bags shall be as specified in table 3

Table 3: Size code and dimensions of Suit case type of travel bag

Size Code And Characteristic	1	2	3	4	5	6	7	Test Method
Length in cm	≤ 49.5	49.5-51.27	51.27-53.92	53.92-58.34	58.34-65.11	65.11-76	≥ 76	Annex A
Width in cm	≤ 14.5	14.5-16.73	16.73-20.08	20.08-26.66	26.66-35.22	35.22-48	≥ 48	
Depth in cm	≤ 14.5	14.5-16	16-18.25	18.25-22.6	22.6-28.35	28.35-37	≥ 37	



**4.6.2 Foundation**

The suit case shall be constructed on a foundation made out of plastic sheet and formed so as to assume the cuboid shape of the bag. The characteristics of the plastic sheet shall be such that the entire internal depth and girth of the cuboid is covered and also have a thickness of not less than 0.76 cm

**4.6.3 Lifting Handles**

The suit case type of travel bag shall have a top and side lifting handles made of plastic and a base of light metal or any other suitable materials. The lifting handles shall be fixed on the plastic sheet of the foundation and comply with the requirements of tables 2 and 3

**4.6.4 Lining**

The travel bag interior shall be lined with a lining fabric complying with KS 214 and of a hue close to that of the panels of the bag

**4.6.5 Piping**

The stitched seams shall be reinforced with piping made out of material preferably similar to that of the panels of the bag, with a core material strong enough to serve the intended purpose. The piping expressed as diameter and measured with a vernier caliper shall be as specified in table 4

**4.6.6 Studs**

The suit case type of travel bag shall have suitable studs fixed by screws on the foundation, face adjacent to the one housing the carriage

**4.6.7 Seams and Stitches**

The suit case shall have a face, back and middle panels forming the cuboid shape. The panels constituting the suit case shall be joined with stitched seams. The stitches and seams shall comply with the descriptions given in KS 836,1&2. The suit case shall have at least one pocket stitched on the face panel. The stitched seams shall bear a piping complying with the specifications of table 4

The stitches per centimetre shall be as specified in table 4 and be tested in accordance with Annex B

**4.6.8 Sewing Thread**

The sewing threads used for making up the seams of the suit case type of travel bags shall be of synthetic fibre preferably polyester and comply with KS 479-2

**4.7. Accessories**

**4.7.1 Fasteners**

Carrier assembly, locks and handles shall be fastened on the plastic sheet constituting the foundation of the suit case with appropriate fasteners specified in KS ISO 898 Part 2

**4.7.2 Locks**

The suit case shall have a programmable lock fixed on the plastic sheet of the foundation and operating with the pullers of the zippers. The dimensions of the locks shall be as given in table 4

Instructions for operating the programmable locks shall be provided with the suitcase bag in a legible and indelible format.

**4.7.3 Carrier Assembly**

The suit case type of travel bag shall have a carrier assembly with a plate fixed at the base and made from suitable material preferably hardened plastic for ease of transporting the bag by rolling. The carrier shall be fitted with wheels on a spindle or clamps at least at the four corners of the base of the suit case.

The carrier shall have an adjustable and self locking pulling handle fitted on double or single tubes at the top. The carrier and associated parts shall comply with the requirements of table 4

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Table 4:Dimensions of accessories of suit case type of travel bag

Characteristic		Dimension	Test Method
Carrier mechanism, dimensions in cm	Bottom Width, in cm	25-27.2	Annex A
	Top width, in cm	19-19.1	Annex A
	Height, in cm	72-97.5	Annex A
Wheels, dimensions in cm	Diameter, in cm	5.2-5.38	Annex A
	Thickness, in cm	1.2-3.36	Annex A
Lifting Handles, dimensions in cm	Span, in cm	14-23.7	Annex A
	Depth, in cm	2.8-3.75	Annex A
Locks, dimensions in cm	Length	10.7-11.22	Annex A
	Width	2.87-3.16	Annex A
	Depth	0.15-1.5	Annex A
Piping, diameter ,in cm		0.3-0.6	Annex A
Tubes, diameter in cm	Width	1.82-3.2	Annex A
	Thickness	1.13-2.47	Annex A

**4.8 Flammability**

The burning behaviour of suit case type of travel bag fabrics shall be tested in accordance with 16 CFR Part 1610 and be of at least Class 1.  
See KS ISO 6940 & 6941

**5 Packaging**

**5.1 Unit Packaging**

Each piece of suit case travel bag shall be wrapped with suitable material and in accordance

KS 2659.

**5.2 Bulk Packaging**

A number of suit case type travel bags shall be packaged in accordance with KS 2659

**6 Marking and Labelling**

**6.1 Unit Pieces**

Each suit case shall bear the following information contained on a label complying with the requirements of KS 665:

- a) Manufacturers name and/or trade mark
- b) Suit case type of travel bag
- c) Size code and Dimensions of suit case type of travel bag in cm
- d) Maximum carrying capacity of the suit case in kg
- e) Fibre composition of the textile material or description of the type of leather or plastic
- f) Instructions for use
- g) Instructions for disposal
- h) Mass of bag in kilograms
- i) Care instructions in accordance with KS ISO 3758
- j) Inscription 'Made in Kenya ' or 'Country of origin'

**6.2 Bulk Packages**

- (a) Manufacturer's name, address and registered trade mark;
- (b) Suit case type of travel bag
- (c) Number of unit packages in the bulk package;
- (d) Gross Mass;
- (e) Batch number;
- (f) The inscription: Made in Kenya or name of 'Country of manufacture' for imports

**7 Criteria for Acceptance**

Each suit case shall comply with all of the tested requirements of this Kenya Standard

## ANNEX A

### Determination of Dimensions

Determine the dimensions of the suit case as specified in A1,A2.A3 and A4 by use of a steel rule and vernier caliper under standard laboratory testing conditions.

For details See Figures 1, 2,3 and 4

#### A1 Suit case dimensions

##### A.1.1Length

##### A1.1.2 Width

##### A1.1.3 Height

#### A 2 Locks

##### A2.1 Width

##### A2.2 Length

##### A2.3 Depth

#### A 3 Carrier Assembly

##### A3.1 Pulling handle Mechanism

##### A3.1.1 Length

##### A3.1.2 Width

##### A3.2 Wheels

##### A3.2.1 Diameter

##### A3.2.2 Width

#### A 3.3 Tubes

##### A3.3.1Width

##### A3.3.2 Thickness

#### A4 Lifting handles

##### A4.1 Span

##### A4.2 Depth

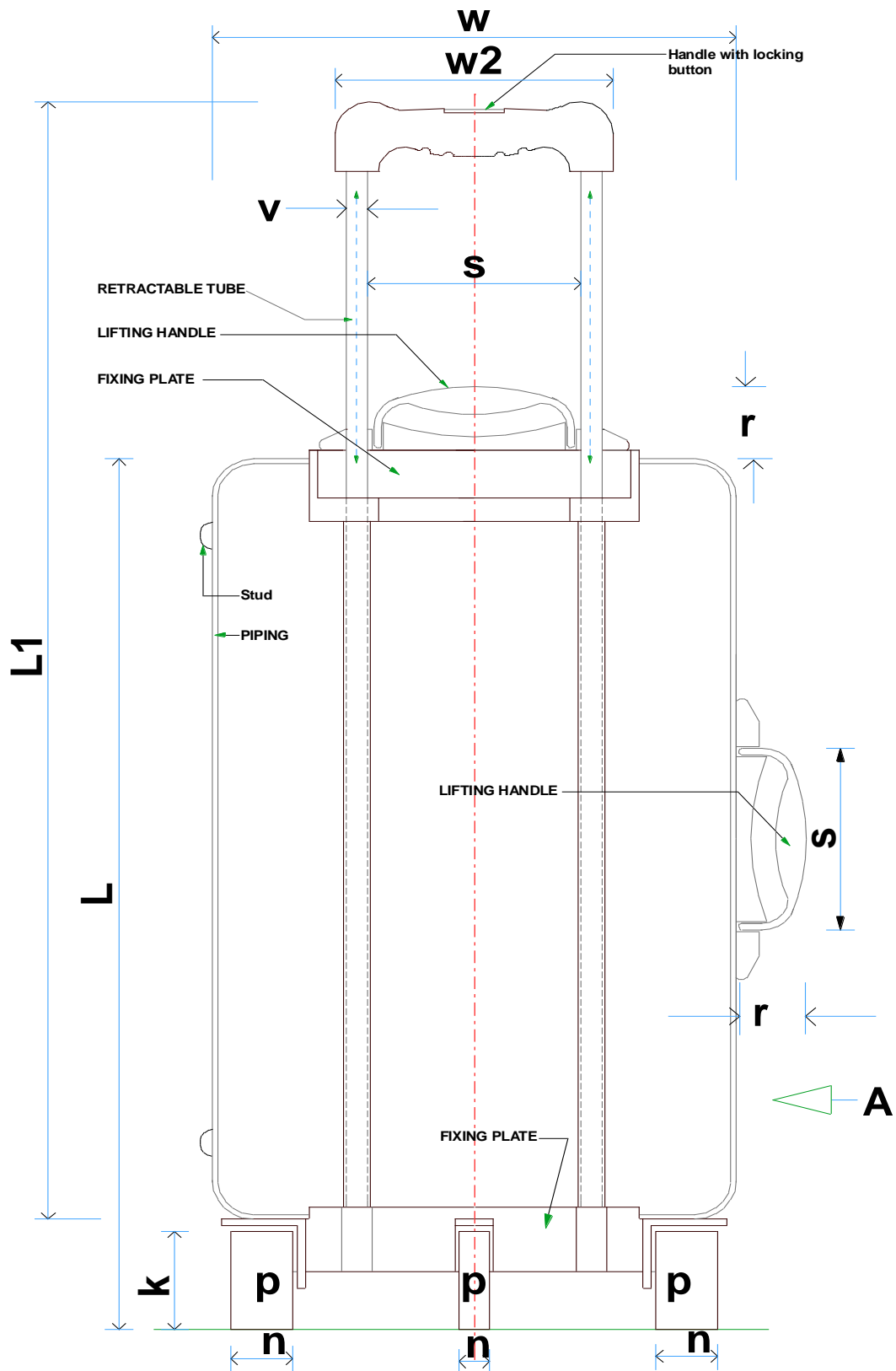


Figure 1: REAR ELEVATION OF SUITECASE

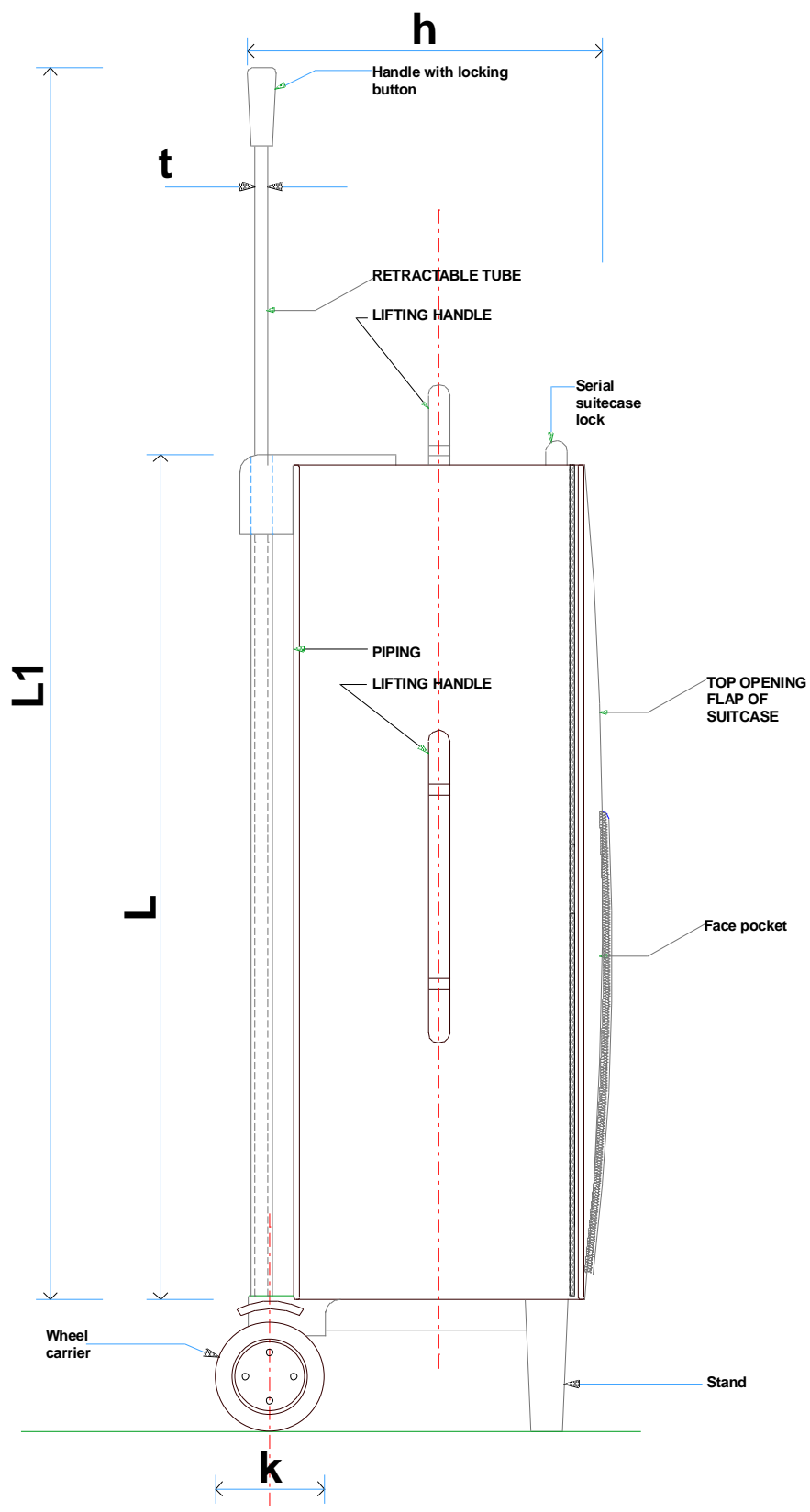


Figure 2: SIDE ELEVATION OF SUIT CASE

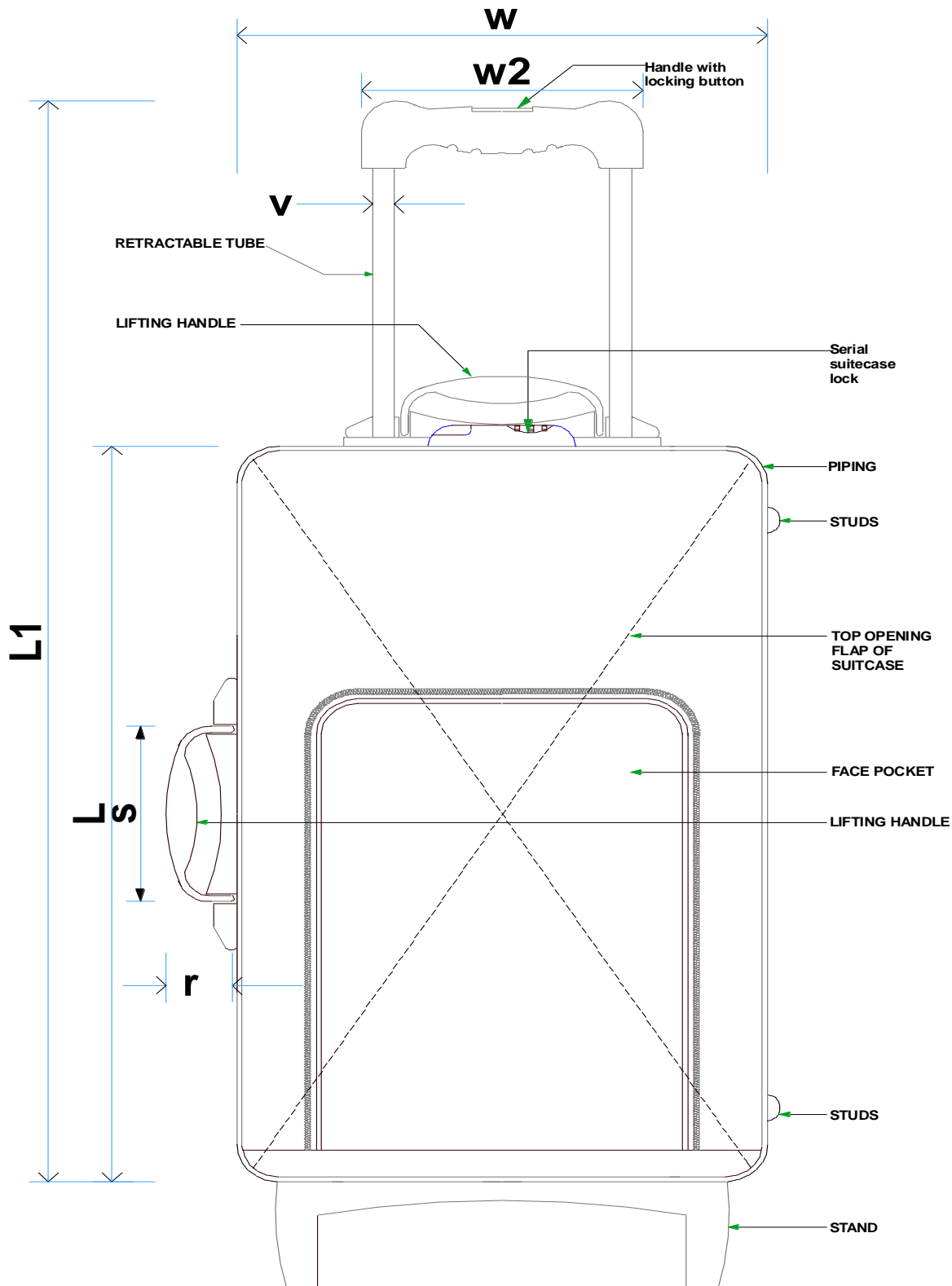


Figure 3:FRONT ELEVATON OF SUITCASE

KEY

L	W	h	W <sub>2</sub>	L <sub>1</sub>	s	r	k	n	t	v	p
Suit case length	Suit case width	Suit case height	Carrier assembly width	Carrier assembly length	Lifting handle span	Lifting handle height	Wheel diameter	Wheel width	Tube thickness	Tube width	Carrier wheel

ANNEX B

(Normative)

Determination of stitches per centimetre

B1 Count the number of stitches along a seam length of known distance in centimetres and determine the number of stitches per centimetre

ANNEX C

(Normative)

Drop Test (Life performance)

C1 Procedure

A suit case type of travel bag of specified dimensions (see table C1) is loaded with relevant personal items of mass (8-25 kg) collated with the size of bag. The loaded bag is dropped from the edge of a bench, 1 metre high, to a flat floor. The drop test is repeated 10 times. After the test, the tested bag is examined; the stitches and seams shall not open and the locks, handles and carrier assembly, shall not break or come out of their positions

Table C 1: Preferred suit case dimensions related to carrying capacity

Category of size	Preferred Bag Dimensions and Carrying capacity			
	Length, in cm	Width, in cm	Depth, in cm	Carrying Capacity, in kg
1	49.5-51.27	14.5-16.73	14.5-16	8-9.13
2	51.27-53.92	16-73.20.08	16-18.25	9.13-10.83
3	53.92-58.34	20.08-26.66	18.25-22.6	10.83-13.66
4	58.34-65.11	26.66-35.22	22.6-28.35	13.66-18
5	65.11-76	35.22-48	28.35-37	18-25



**BIBLIOGRAPHY**

KS 1829 Labelling of products-General requirements

KS ISO 17 Guide to the use of preferred numbers and series of preferred numbers

KS ISO 497 Guide to the choice of series of preferred numbers and series containing more rounded values of preferred numbers

SANS 1147:2015 Leather school bags and brief- cases

KS 325 Engineering drawing practice

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