

No.U.II.98 (Spec)/2021-20-Prov-14 (Suitcase)  
Government of India, Ministry of Home Affairs  
Directorate General, Central Reserve Police Force  
(Tele/Fax No. 011-24360155)  
(E-mail:digprov@crpf.gov.in)

Block No.1, CGO Complex,  
Lodhi Road, new Delhi-110003

Dated, the 22 Dec'2022

Expression of Interest Notice

Tender No. :: No.U.II.98 (Spec)/2021-20-Prov-14 (Suitcase)

Publish Date :: 23 December, 2022

Last date of submission :: 07/01/2023

Description :: Expression of interest for procurement of Suitcase with Trolley in CRPF. QRs/Specifications and TDs published vide Directorate General, CRPF, Lodhi Road, New Delhi letter number U.II.98 (Spec)/2021-20-Prov-14 (Suitcase) dated 23/12/2022, last date of receipt is 07/01/2023 at 1600 hrs. E-mail:digprov@crpf.gov.in, Fax: 24360155 as per details given at attached proposal.

Attachments :- 10 pages(copy of EOI, draft QRs/Specifications and TDs of the subject item).



D.N.Lal  
DIG (Prov) Dte.

‘EXPRESSION OF INTEREST ‘

CRPF is in process to procurement of Suitcase with Trolley.

2. The revised QRs/Specification and Trial Directives of said item is attached herewith.
3. The firms/parties dealing in subject matter are invited to submit their views by 07 /01/2023.

Contact Person:-

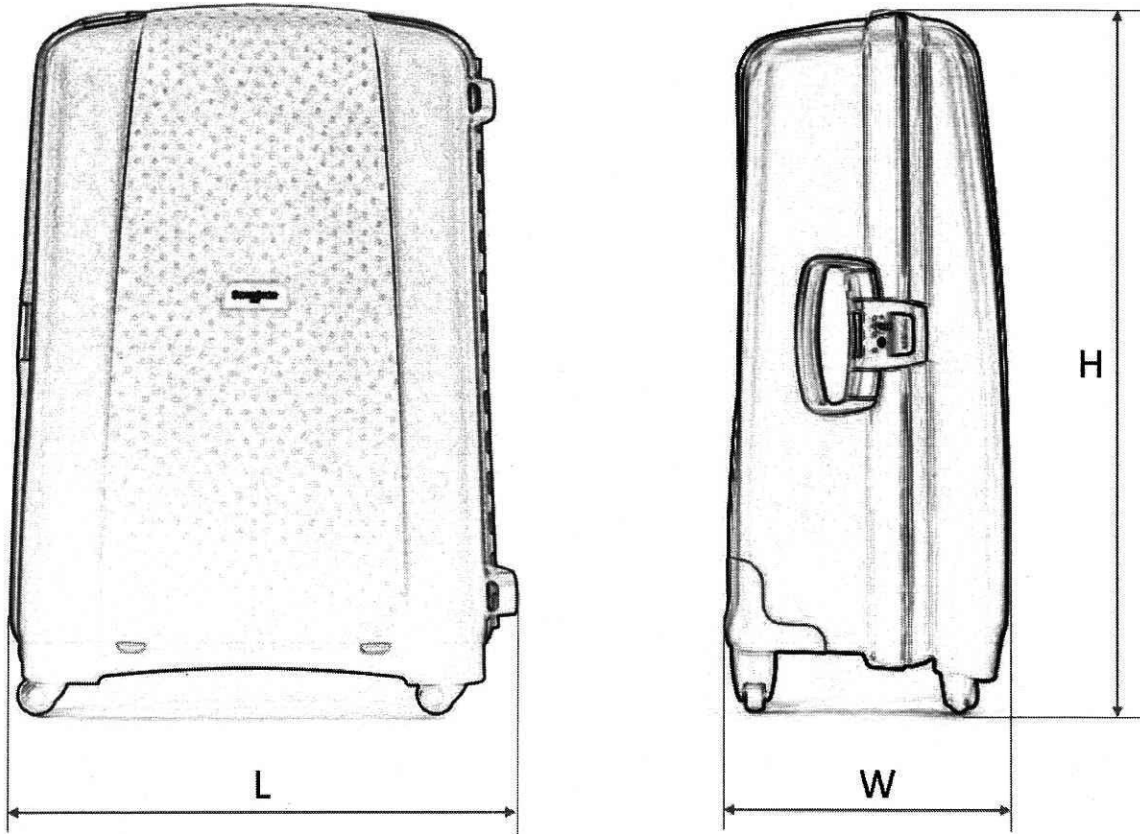
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## Draft Specification: Suitcase with Trolley

### Scope:

This specification covers the requirement of spinner suitcase.

**Nomenclature of the Product** – Polypropylenemoulded Suitcase with 3-point locking system.



### Technical Specification: -

a) Dimension, Weight, Volume -

Specification	Comfort Spinner 75 cm TSA
L X H X W in cm Specification ( $\pm 1\%$ cm to overall dimension )	53.5X75X31.5
Weight in Kg Specification ( $\pm 5\%$ )	5
Volume (fill with PP granules 3 mm) in Liters Specification	87.5

b) Warranty – 05 Years (serviceable at the cost of seller within entire cycle).

## Material Specification

### 1. Main Body

Made of Polypropylene hard top body to withstand long haul travel and rough handling, scratch, and wear resistance.

**Material –Polypropylene(**

**Material Standard:**

- a) **IS 10909:2001** on positive lists of constituents of Polypropylene in contact with foodstuffs, pharmaceuticals, and drinking water
- b) **IS 10910:1984** on specification of Polypropylene for its safe use in contact with foodstuffs, pharmaceuticals, and drinking water

### Material Specification

Characteristics	Standard	Unit	Specification	Equivalent IS standard
Melt Flow Index 2.16 kg 230°C	ASTM 1238	g/10 min	10 to 12	IS 13360-4-1
Flexural Modulus	ASTM D790	MPA	Min 1000	IS 13360-5-7
Izod Impact	ASTM D256	J/m	Min 120	IS 13360-5-4

### 2. Wheel

#### i) *Wheel Housing, Fork*

**Material - PAGF 30% Grade – Akulon K224**

Characteristics	Standard	Unit	Specification	Equivalent IS standard
Tensile Strength at Break	ISO 527-1/-2	Mpa	Min 110	IS 13360-5-2
Elongation at Break	ISO 527-1/-2	%	3.5 to 7	IS 13360-5-2
Tensile Modulus	ISO 527-1/-2	GPa	Min 6	IS 13360-5-2

#### ii) *Wheel Core*

**Material – PolypropyleneGrade – M312**

Characteristics	Standard	Unit	Specification	Equivalent IS standard
Melt Flow Index 2.16 kg 230°C	ASTM 1238	g/10 min	10 to 12	IS 13360-4-1
Flexural Modulus	ASTM D790	MPA	Min 1000	IS 13360-5-7
Izod Impact	ASTM D256	J/m	Min 120	IS 13360-5-4

#### iii) *Tyre*

**Material– TPUGrade:Desmopan 192**

Characteristics	Standard	Unit	Specificat ion	Equivalent IS standard
Shore Hardness- A	ISO 868	Shore A	92 to 94	IS 13360-5-11
Stress at 100% strain	ISO527-1-3	MPa	10	IS 13360-4-1
Stress at 300% strain	ISO527-1-3	MPa	17	IS 13360-4-1
Elongation at Break	ISO527-1-3	%	590	IS 13360-4-1



**Specification for Mechanical Properties Tubes**

	Tensile Strength (Mpa)	0.2% Proof Stress (Mpa)	% Elongation (In 50 mm G.L)	Hardness (BHN)
Specification Min	215	170	6	75

**7. Fabric**

Fabric Grade – Polyester Fabric

Type	Method/Standard	Specification	Equivalent IS standard
Colour Fastness to Crocking Dry / Wet	AATCC 8-1989	Requirement > = 4 on grey scale	IS 766
Colour Fastness to water	AATCC 107 -1991	Requirement > = 4 on grey scale	IS 105-A04
Abrasion Resistance	ASTM-D3884-80	No Broken yarns allowed	IS 12673
Tensile Strength	ASTMD-5034	> = 36 Kg in warp and weft	IS 1969(Part 1)
Trapezoid Tearing Strength	ASTM D 2263-68	> = 2.5 Kg in Warp and Weft	IS 14293

**Finish Product Tests****1. Surface Hardness test:**

Method	Specification	Acceptance Criteria
Pencil Hardness Test	>= Class H2	No scratch to surface

**2. Endurance wheel**

To be carried out with 16 Kg in 68 cm and 22 Kg in 75 cm load equally distributed in suitcase - on Mileage belt with bumpers added, at room temperature.

Method	Specification	Acceptance Criteria
Mileage test – 2 wheels	32 Km	No tire bonding and/or wheel removal

**3. Jerk Test at Handle**

To be carried out with 16 Kg in 68 cm and 22 Kg in 75 cm load equally distributed in suitcase at room temperature

Method	Specification	Acceptance Criteria
Handle Jerk Test	3000 cycles	No handle removal or breakage of shell/handle

**4. Drop Test @ Room temperature & -12°C**

To be carried out with 16 Kg in 68 cm and 22 Kg in 75 cm load equally distributed in suitcase at Room temperature and -12°C

Method	Specification	Acceptance Criteria
Case Drop on wheels	3 Drops from 90 cm at -12°C	No Dent/ no crack to suitcase
Case Drop on Glides	3 Drops from 90 cm at -12°C	No Dent/ no crack to suitcase

Case drop on carry handle	1 Drops from 90 cm at -12°C	No Dent/ no crack to suitcase
Flat Drop on Back panel	1 Drops from 90 cm at -12°C	No Dent/ no crack to suitcase
Flat drop on Font panel	1 Drops from 90 cm at -12°C	No Dent/ no crack to suitcase
Shell Corner Drop	1 Drops from 60 cm on 8 shell corners at -12°C	No Dent/ no crack to suitcase
Case corner drop	1 Drops from 60 cm on 4 case corners at -12°C	No Dent/ no crack to suitcase
Edge corner drop	1 Drops from 60 cm on 3 edge corners at -12°C	No Dent/ no crack to suitcase

### 5. Tumble test @ Room temperature & -12°C

To be carried out with 16 Kg in 68 cm and 22 Kg in 75 cm load equally distributed in suitcase at Room temperature and -12°C

Method	Specification	Acceptance Criteria
Tumble test	50 cycles at -12°C	No Dent/ no crack to suitcase

### 6. Pull handle Test

To be carried out with 16 Kg in 68 cm and 22 Kg in 75 cm load equally distributed in suitcase at room temperature

Method	Specification	Acceptance Criteria
Multi push pull handle cycle and lift test	1500 cycles with 12 pushes	No damage/Bend/Crack of pull handle. Free movement.
Hanging Pull handle Jerk	500 Cycles	No damage/Bend/Crack of pull handle. Free movement.
Standing Pull handle jerk test	5000 cycles	No damage/Bend/Crack of pull handle. Free movement.

### 7. Humidity resistance of Hardware

suitcase kept at Humidity chamber

Method	Specification	Acceptance Criteria
Humidity Resistance	98% relative Humidity at 38°C for 240 hrs	No oxidation, damage or flaking of the finish may be detected after 240 hrs

### 8. Lock open close test

Method	Specification	Acceptance Criteria
Lock open close test	15000 cycles with setting diff. codes	Lock to be functional

### 9. Hinge open close test

Method	Specification	Acceptance Criteria
Hinge open close test	5000 cycles	Hinge function ok , No cracking observed

### 10. Environmental cycle

To determine the effects that high and low temperatures and humidity have on suitcase materials (plastics, textile, leather, metals, etc.), components and on the overall finished product construction.

Method	Specification	Acceptance Criteria
Environmental cycle test	3 cycles (24 hrs in Humidity @98% temperature 38°C, 24 hrs in Oven at 65°C, 24 hrs in Freezer at -12°C )	No effect on suitcase after testing

### 11. Oven test

Suitcase kept at Oven chamber

Method	Specification	Acceptance Criteria
Oven age test	At 65°C for 120 hrs	No effect on suitcase after testing



**Suitcase with Trolley Comfort Spinner 68 and 75 cm TSA**

	Material	Testing Methodology	Details of Testing Authority
1	Main Body - Material	Melt Flow Index 2.16 kg 230°C	MSME Testing Centre
		Flexural Modulus	MSME Testing Centre
		Izod Impact	MSME Testing Centre
2	Wheel		
i)	<i>Wheel Housing, Fork</i>	Tensile Strength at Break	MSME Testing Centre
		Elongation at Break	MSME Testing Centre
		Tensile Modulus	MSME Testing Centre
ii)	<i>Wheel Core</i>	Melt Flow Index 2.16 kg 230°C	MSME Testing Centre
		Flexural Modulus	MSME Testing Centre
		Izod Impact	MSME Testing Centre
iii)	<i>Tyre</i>	Shore Hardness- A	MSME Testing Centre
		Stress at 100% strain	MSME Testing Centre
		Stress at 300% strain	MSME Testing Centre
		Elongation at Break	MSME Testing Centre
3	Handle	Melt Flow Index 2.16 kg 230°C	MSME Testing Centre
		Flexural Modulus	MSME Testing Centre
		Izod Impact	MSME Testing Centre
4	Lock	Melt Volume flow rate 300°C @1.2kg	MSME Testing Centre
		Tensile Modulus	MSME Testing Centre
		Tensile stress @ break	MSME Testing Centre
		Tensile Strain @ break	MSME Testing Centre
		Flexural Modulus	MSME Testing Centre
5	Pull Handle		
i)	<i>Grip Assembly</i>	Melt flow Rate	MSME Testing Centre
		Izod Impact strength	MSME Testing Centre
ii)	<i>Pull handle Tube</i>	Specification for Chemical Composition (in %)	
		Specification Min	MSME Testing Centre
		Specification Max	MSME Testing Centre
		Specification for Mechanical Properties Tubes	
		Specification Min	
6	Fabric	Colour Fastness to Crocking Dry/Wet	
		Colour Fastness to water	
		Abrasion Resistance	MSME Testing Centre
		Tensile Strength	MSME Testing Centre
		Trapezoid Tearing Strength	MSME Testing Centre

**Finish Product Tests**

1	Surface Hardness test:	Pencil Hardness Test	MSME Testing Centre
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2	Endurance wheel	To be carried out with 16 Kg in 68 cm and 22 Kg in 75 cm load equally distributed in luggage - on Mileage belt with bumpers added, at room temperature	
		Mileage test – 2 wheels	MSME Testing Centre
3	Jerk Test at Handle	To be carried out with 16 Kg in 68 cm and 22 Kg in 75 cm load equally distributed in luggage at room temperature	
		Handle Jerk Test	MSME Testing Centre
4	Drop Test @ Room temperature & -12°C	To be carried out with 16 Kg in 68 cm and 22 Kg in 75 cm load equally distributed in luggage at Room temperature and -12°C	
		Case Drop on wheels	MSME Testing Centre
		Case Drop on Glides	MSME Testing Centre
		Case drop on carry handle	MSME Testing Centre
		Flat Drop on Back panel	MSME Testing Centre
		Flat drop on Font panel	MSME Testing Centre
		Shell Corner Drop	MSME Testing Centre
		Case corner drop	MSME Testing Centre
Edge corner drop	MSME Testing Centre		
5	Tumble test @ Room temperature & -12°C	To be carried out with 16 Kg in 68 cm and 22 Kg in 75 cm load equally distributed in luggage at Room temperature and -12°C	
		Tumble test	MSME Testing Centre
6	Pull handle Test	To be carried out with 16 Kg in 68 cm and 22 Kg in 75 cm load equally distributed in luggage at room temperature	
		Multi push pull handle cycle and lift test	MSME Testing Centre
		Hanging Pull handle Jerk	MSME Testing Centre
		Standing Pull handle jerk test	MSME Testing Centre
7	Humidity resistance of Hardware	Luggage kept at Humidity chamber	
		Humidity Resistance	MSME Testing Centre
8	Lock open close test	Lock open close test	MSME Testing Centre
9	Hinge open close test	Hinge open close test	

10	Environmental cycle	To determine the effects that high and low temperatures and humidity have on luggage materials (plastics, textile, leather, metals, etc.), components and on the overall finished product construction.	
		Environmental cycle test	MSME Testing Centre
11	Oven test	Luggage kept at Oven chamber	
		Oven age test	MSME Testing Centre