Director General CRPF
Block No. 1 CGO Complex, New Delhi-110003
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No.U.II-98(Spec)/2023-24-Prov-(Suitcase)-14 Dated, the 01st November' 2023

To

The DsG: AR, BSF, CISF, ITBP, NSG, SSB and BPR&D

Subject: QRs/Specification of "Suitcase with Trolley".

Sir,

QRs/Specifications of "**Suitcase with Trolley**" as per **Appendix-A** has been recommended by the CAPFs Sub-Group and approved by the competent authority.

2. Henceforth, all the CAPFs may procure the above item required by them, strictly as per the laid down QRs/Specifications.

3. This has the approval of the DG, CRPF on 26/10/2023 (empowered vide MHA letter F.No. 11012/02/2009-Fin-I-17 dated 02/01/2018).

Encl: As above.

01.11.23

(D.P. Upadhyay)
DIG(Prov)

No.U.II-98(Spec)/2023-24-Prov-(Suitcase)-14 Dated, the 01 November' 2023

Copy forwarded to:-

1. SO (IT), North Block-with request to upload the approved QRs/Specification of "**Suitcase with Trolley**" on MHA Website (e-mail ID :soit@nic.in).
2. **Sh. Paritosh Singhal, ACEO(GeM),** Government of India, Ministry of Commerce & Industry, Government e-Marketplace, Jeevan Tara Building, 5-Parliament Street, New Delhi-110001 with request to upload the approved QRs/Specification of "**Suitcase with Trolley**" on GeM Portal.
3. DIG(IT), Dte Genl., CRPF-with request to upload this approved QRs/Specification of "**Suitcase with Trolley**" on CRPF Portal and Selo Module.
4. All Zones/Sectors/GCs/Units HQr for information and necessary action.

01.11.23

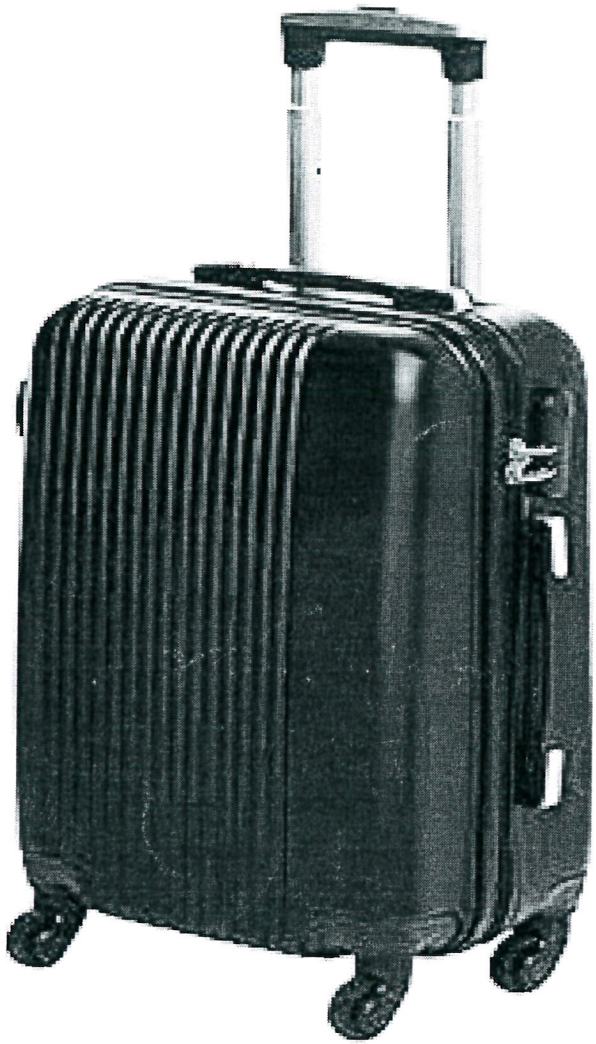
(D.P. Upadhyay)
DIG(Prov)

QRs/Specifications of "Suitcase with Trolley"

Scope:

This specification covers the requirement of spinner suitcase.

Nomenclature of the Product – PolypropylenemouldedSuitcase with 3-point locking system/ Anti-theft Secured Zipper.



Technical Specification: -

a) Dimension, Weight, Volume –

Specification on four wheels.	Details of parameters
L X H X W in cm Specification (± 10% cm to overall Internal dimension)	53.5X75X31.5
Weight in Kg (±10%) with three point locking	5
Weight in Kg (±10%)with secured zipper	4
Warranty – (replacement & repair at the cost of seller within entire warranty cycle).	5 Years

NITRA Assam Rifle BPR&D BSF CISF CRPF ITBP NSG SSB

10/10/23 DIG (Prov.)

12/10/23 BIS

Material Specification on four wheels

1. Main Body

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

Material –Polypropylene **IS -10951 : 2020**

Material Specification

Characteristics	Standard	Unit	Specification	Equivalent IS standard	Remarks
Melt Flow Index 2.16 kg 230°C	ASTM 1238	g/10 min	10 to 12	IS 13360 (Part 4/Sec 1/ Subsec 1) & IS 13360 (Part 4/Sec 1/Subsec 2)	***Polypropylene with option of three point lock and anti-thief secure zipper with self-certification***
Flexural Modulus	ASTM D790	MPA	Min 1000	IS 13360 (Part 5/Sec 7)	
Izod Impact	ASTM D256	J/m	Min 120	IS 13360 (Part 5/Sec 4)	

2. Wheel

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

Material - Polyamide/Polypropylene/PAGF 30% **IS-13463:2022**

Characteristics	Standard	Unit	Specification	Equivalent IS standard	Remarks
Tensile Strength at Break	ISO 527-1/-2	Mpa	Min 110	IS 13360 (Part 5/Sec 1) & IS 13360 (Part 5/Sec 2)	Self-certification
Elongation at Break	ISO 527-1/-2	%	3.5 to 7	IS 13360 (Part 5/Sec 1) & IS 13360 (Part 5/Sec 2)	
Tensile Modulus	ISO 527-1/-2	GPa	Min 6	IS 13360 (Part 5/Sec 1) & IS 13360 (Part 5/Sec 2)	

ii) ***Wheel Core***

Material – Polypropylene/Polyamide

Characteristics	Standard	Unit	Specification	Equivalent IS standard	Remarks
Melt Flow Index 2.16 kg 230°C	ASTM 1238	g/10 min	10 to 12	IS 13360 (Part 4/Sec 1/Subsec 1) & IS 13360 (Part 4/Sec 1/Subsec 2)	Self-certification
Flexural Modulus	ASTM D790	MPA	Min 1000	IS 13360 (Part 5/Sec 7)	
Izod Impact	ASTM D256	J/m	Min 120	IS 13360 (Part 5/Sec 4)	

iii) ***Tyre***

Material–Thermoplastic Polyurethanes (TPU) **IS-17397(Part-1):2022/**Thermo Plastic Elastomers (TPE)

Characteristics	Standard	Unit	Specification	Equivalent IS standard	Remarks
Shore Hardness- A	ISO 868	Shore A	92 to 94	IS 13360 (Part 5/Sec 11)	Self-certification
Stress at 100% strain	ISO527-1-3	MPa	10	IS 13360 (Part 5/Sec 1), IS 13360 (Part 5/Sec 2) & IS 13360 (Part 5/Sec 3)	
Stress at 300% strain	ISO527-1-3	MPa	17	IS 13360 (Part 5/Sec 1), IS 13360 (Part 5/Sec 2) & IS 13360 (Part 5/Sec 3)	
Elongation at Break	ISO527-1-3	%	590	IS 13360 (Part 5/Sec 1), IS 13360 (Part 5/Sec 2) & IS 13360 (Part 5/Sec 3)	

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3. Language Handle-Polypropylene/PVC

Characteristics	Standard	Unit	Specification	Equivalent IS standard	Remarks
Melt Flow Index 2.16 kg 230°C	ASTM 1238	g/10 min	10 to 12	IS 13360 (Part 4/Sec 1/Subsec 1) & IS 13360 (Part 4/Sec 1/Subsec 2)	Self-certification
Flexural Modulus	ASTM D790	MPA	Min 1000	IS 13360 (Part 5/Sec 7)	
Izod Impact	ASTM D256	J/m	Min 120	IS 13360 (Part 5/Sec 4)	

4. Lock

Material –Polycarbonate **IS-14434:1998 or** ABS or Secured Zipper no 8 anti theft ABS TSA Central locking (confirming to **IS 3148:1991**)

Characteristics	Standard	Unit	Specification	Equivalent IS standard	Remarks
Melt Volume flow rate 300°C @1.2kg	ISO 1133	CC/10 min	10 to 14	IS 13360 (Part 4/Sec 1/ Subsec 1) & IS 13360 (Part 4/Sec 1/ Subsec 2)	Acrylonitrile, Butadiene and Styrene
Tensile Modulus	ISO 527-2/1	Mpa	Min 2350	IS 13360 (Part 5/Sec 1) & IS 13360 (Part 5/Sec 2)	
Tensile stress @ break	ISO 527-2/50	Mpa	Min 70	IS 13360 (Part 5/Sec 1) & IS 13360 (Part 5/Sec 2)	
Tensile Strain @ break	ISO 527-2/50	%	Min 110%	IS 13360 (Part 5/Sec 1) & IS 13360 (Part 5/Sec 2)	
Flexural Modulus	ISO 178	Mpa	Min 2300	IS 13360 (Part 5/Sec 7)	

5. Pull Handle

i) Grip Assembly

Material – ABS**IS-17077(Part-1):2022**

Characteristics	Standard	Unit	Specification	Equivalent IS standard	Remarks
Melt flow Rate	ISO 1133	g/10Min	18 Min / 24max	IS 13360 (Part 4/Sec 1/Subsec 1) & IS 13360 (Part 4/Sec 1/ Subsec 2)	Self-certification
Izod Impact strength	ASTM D256	Kg-cm/cm	20 Min / 28Max	IS 13360 (Part 5/ Sec 4)	

ii) Pull handle Tube (Tube be inside the Suitcase)

Material – Aluminium Alloy

Specification standard – EN AW: 573-3:2019-10, 755-2:2016-10

Equivalent IS Standard:IS 1285: 2023

Specification for Chemical Composition(in %)

	Si	Fe	Mg	Mn	Cu	Zn	Ti	Cr	Al	Remarks
Specification Min	0.20	-	0.45	-	-	-	-	-	Remainder	To be tested
Specification Max	0.60	0.35	0.90	0.10	0.10	0.10	0.10	0.10	Remainder	

Specification for Mechanical Properties Tubes

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

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6. Fabric

Fabric Grade – Polyester Fabric (Minimum GSM value should be of 70-75 g/m^2)

Type	Method/Standard	Specification	Equivalent IS standard	Remarks
Colour Fastness to Crocking Dry / Wet	AATCC 8-1989	Requirement > = 4 on grey scale	IS/ISO 105-X12:2016	Self-certification
Colour Fastness to water	AATCC 107 -1991	Requirement > = 4 on grey scale	IS/ISO 105-C10:2006	
Abrasion Resistance	ASTM-D3884-80	No Broken yarns allowed	IS 12673 (Part-3):2014	
Tensile Strength	ASTMD-5034	> = 36 Kg in warp and weft	IS 1969(Part 2): 2018	
Trapezoid Tearing Strength	ASTM D 2263-68	> = 2.5 Kg in Warp and Weft	IS 6489 (Part-4):2011	

Finish Product Tests

1. Surface Hardness test:

Method	Specification	Acceptance Criteria	Remarks
Pencil Hardness Test	>= Class H2	No scratch to surface	To be tested

2. Endurance wheel

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

Method	Specification	Acceptance Criteria	Remarks
Mileage test – 2 wheels	16 km in each direction	No tire bonding and/or wheel removal	To be tested

3. Jerk Test at Handle

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

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

4. Drop Test @ Room temperature &-5°C

To be carried out with 22 Kg in 75 cm load equally distributed in suitcase at Room temperature and -5°C

Method	Specification	Acceptance Criteria	Remarks
Case Drop on wheels	3 Drops from 90 cm at -5°C	No Dent/ no crack to suitcase	To be tested
Case Drop on Glides	3 Drops from 90 cm at -5°C	No Dent/ no crack to suitcase	
Case drop on carry handle	1 Drops from 90 cm at -5°C	No Dent/ no crack to suitcase	
Flat Drop on Back panel	1 Drops from 90 cm at -5°C	No Dent/ no crack to suitcase	
Flat drop on Font panel	1 Drops from 90 cm at -5°C	No Dent/ no crack to suitcase	
Shell Corner Drop	1 Drops from 60 cm on 8 shell corners at -5°C	No Dent/ no crack to suitcase	
Case corner drop	1 Drops from 60 cm on 4 case corners at -5°C	No Dent/ no crack to suitcase	
Edge corner drop	1 Drops from 60 cm on 3 edge corners at -5°C	No Dent/ no crack to suitcase	

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5. Tumble test @ Room temperature &-5^{0}C

To be carried out with 22 Kg in 75 cm load equally distributed in suitcase at Room temperature and -5^{0}C

Method	Specification	Acceptance Criteria	Remarks
Tumble test	50 cycles at -5^{0}C	No Dent/ no crack to suitcase	To be tested

6. Pull handle Test

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

Method	Specification	Acceptance Criteria	Remarks
Multi push pull handle cycle and lift test	1500 cycles with 12 pushes	No damage/Bend/Crack of pull handle. Free movement.	To be tested
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	Remarks
Humidity Resistance	96 to 98% relative Humidity at 38^{0}C±2^{0}C for 240 hrs	No oxidation, damage or flaking of the finish may be detected after 240 hrs	To be tested

8. Lock open close test

Method	Specification	Acceptance Criteria	Remarks
Lock open close test	5000 cycles with setting diff. codes	Lock to be functional	To be tested

9. Hinge open close test

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

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	Remarks
Environmental cycle test	3 cycles (24 hrs in Humidity @92% ±2% temperature 38^{0}C±2^{0}C , 24 hrs in Oven at 65^{0}C±2^{0}C, 24 hrs in Freezer at -5^{0}C)	No effect on suitcase after testing	To be tested

11. Oven test

Suitcase kept at Oven chamber

Method	Specification	Acceptance Criteria
Oven age test	At 65^{0}C for 120 hrs	No effect on suitcase after testing

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Finish Product Tests

1	Surface Hardness test:	Pencil Hardness Test
2	Endurance wheel	To be carried out with 22 Kg in 75 cm load equally distributed in luggage - on Mileage belt with bumpers added, at room temperature
		Mileage test – 2 wheels
3	Jerk Test at Handle	To be carried out with 22 Kg in 75 cm load equally distributed in luggage at room temperature
		Handle Jerk Test
4	Drop Test @ Room temperature & -5°C	To be carried out with 22 Kg in 75 cm load equally distributed in luggage at Room temperature and -5°C
		Case Drop on wheels
		Case Drop on Glides
		Case drop on carry handle
		Flat Drop on Back panel
		Flat drop on Font panel
		Shell Corner Drop
		Case corner drop
		Edge corner drop
5	Tumble test @ Room temperature & -5°C	To be carried out with 22 Kg in 75 cm load equally distributed in luggage at Room temperature and -5°C
		Tumble test
6	Pull handle Test	To be carried out with 22 Kg in 75 cm load equally distributed in luggage at room temperature
		Multi push pull handle cycle and lift test
		Hanging Pull handle Jerk
		Standing Pull handle jerk test
7	Humidity resistance of Hardware	Suitcase kept at Humidity chamber
		Humidity Resistance
8	Lock open close test	Lock open close test
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 Suitcase materials (plastics, textile, leather, metals, etc.), components and on the overall finished product construction.
		Environmental cycle test
11	Oven test	Suitcase kept at Oven chamber
		Oven age test

- ***Chemical parameter which can't be tested from built product, will require self-certification from vendors duly commensurating with invoice related with raw material.***
- ***All physical parameters will be tested by buyer nominated agency/lab and if required at factory premises of vendors.***
- ***Testing agency/lab will be MSME Mumbai/ CIPET/NTH or any other agency decided by the buyer.***

NITRA

10.10.23

DIG (Tech)

Assam Rifle BPR&D BSF CISF CRPF ITBP NSG SSB

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P.O.

Approved/Not Approved

Dr. Sujoy Lal Thaosen, IPS
Director General, CRPF