

## Specimen Carrier – Design Criteria

### Specimen Carrier

**Green highlight:** suggested values based on recommendations received from expert advice.

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**To add relevant parts from Terms and Definitions:**

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#### Need

1. A passive device that can be used to transport quantities of infectious specimens from the site of case investigation to the national laboratory, while maintaining the internal temperature within the recommended temperature limits (-20°C to +8°C), with the help of frozen IP.

#### Approach

2. A shock resistant container with a good thermal insulation that can be used transport infectious specimens safely from one point to another under controlled temperature (-20°C to +8°C) using frozen IP

#### Target performance criteria

The purpose of the device to is to carry biological/viral specimens from the place of investigation in the field to the national testing laboratory while maintaining its temperature within defined limits (-20 to +4°C) for the duration of the transport (minimum of 72 hours).

3. The device should withstand storage and usage at an external ambient temperature of -10 °C to 45°C.
4. The device shall have internal dimensions to accommodate the WHO approved IP to fit along the inner walls of the container to maintain the ambient of the inner volume within recommended temperature range.
5. The inside thermal insulation should have low thermal conductivity to assure that the temperature, when loaded with the required number of frozen IP at -20 °C, does not rise above + 8°C before 72 hours in an ambient temperature of +43 °C.
6. The thermal insulation should be produced using chemicals that are non-ozone depleting and preferably having minimum global warming potential.
7. The physical dimensions and total internal volume of the device should be as given in the table below to accommodate the corresponding number of specimen collection pots as defined in PIS/PQS: E11/02.

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Type	Length (mm)	Width (mm)	Height (mm)	Max. Weight loaded (kg)	Specimen storage capacity (L)	No. of specimen kits (pots)
Medium	300	250	250	4	0.5-1.0	>4
Large	370	250	250	6	1 to 1.5	>8

8. The device should have an external lid that can be safely closed and remain closed on suffering accidental drops and knocks.
9. The device should withstand shocks caused by accidental drops or knocks and should not be damaged due to vibrations of the type caused by road transport.
10. The total weight of the device should be as defined in the table under point 8.
11. For convenience of transport the device should have a handle and/or strap to hang across the shoulder.
12. The device should have a non-verbal instruction to describe the loading pattern of icepacks supplied with the carrier and the specimen pots.
13. The device should permit easy stacking of the device in a stable condition
14. Manufacturer should state period over which the measured / claimed cold life performance is assured, and how to dispose off device at end of life.
15. The device should have a yellow external body and a clear, preferably embossed sign to inform the user about its infectious contents.
16. There should be instructions on the device on how to disinfect it after use.  
All verbal information should be displayed in English, French, Spanish, Arabic and Russian.