Specification No: GSV-IPT – Mat Man 017 Issue 1 – Dated 17th April 2009

SPECIFICATION FOR FIRE EXTINGUISHERS 2 KG CAPACITY, CLASS ABC DRY POWDER – NSN 6MT1/4210-99-998-3537

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1. INTRODUCTION

This document has been produced in order to specify the 2 kg Dry Powder Fire Extinguisher required to meet/exceed road transport regulations relating to the transportation of dangerous goods and to conform to Military operating criteria.

During its normal service life, the extinguisher will be mounted on bracket FV 3203179 NSN 6MT1/4210-99-839-9904 which is painted NATO green, attached to Ministry of Defence vehicles and various equipments. Although the bracket will provide some protection, the extinguisher itself is still likely to be subjected to harsh environmental conditions, such as shock, bumps and vibration transmitting through the vehicle chassis, high and low temperature or exposure to water through the temporary submersion of the extinguisher. The safety pin which prevents accidental operation is physically attached to the extinguisher by a strap 6MT1 5340-99-701-9340.

A drawing of the space envelope of the bracket and extinguisher is attached at Annex A. The fire extinguisher body is to comply with BS EN 3: 2004) and the requirements of this specification. (Aluminum / Alloy).

2. SCOPE

The supply of fire extinguishers 2 kg (dry powder) for Ministry of Defence use.

3. REFERENCES

a.	BS EN 3	Portable fire extinguishers.
b.	BS 5306 Part 3	Code of practice for selection, installation and maintenance of portable fire extinguishers.
c.	BS EN 615	Fire protection – fire-extinguishing media – specification for powders (other than Class D powders).
d.	BS EN ISO 9001-2008	Quality Systems.
e.	Defence Standard 00-35	Environmental Handbook for Defence Material.

NOTE:

1. Documents referred to in this specification shall mean the latest issue unless otherwise stated.

2. Defence Standards are obtainable from:

   Directorate of Standardization, Ministry of Defence, Kentigern House,
   65 Brown Street, GLASGOW G2 8EX.

   Or by email to: enquires@dstan.mod.uk

4. 2 KG DRY POWDER EXTINGUISHERS – FIRE FIGHTING PERFORMANCE

4.1 Extinguishers supplied in accordance with this specification shall fully meet the performance requirements of and be approved to BS EN 3 as well as the additional requirements defined in this specification.

4.2 All components, including safety pins, shall be captive to the extinguishers throughout normal operation.

4.3 Extinguishing medium: Class ABC dry powders meeting the requirements of BS EN 615 and this specification.

4.4 Extinguisher capacity: 2 kg Class ABC dry powder.

4.5 Fire rating: not less than 13A / 70B when tested in accordance with BS EN 3

4.6 The dry powder-extinguishing medium shall be fully compatible with all Fire Fighting foam.

4.7 The extinguisher shall be of the stored pressure type and shall be charged with dry nitrogen to BS EN 3

4.8 Extinguisher operating temperature range shall be in accordance with BS EN 3 requirements, but must also operate within the temperature range of -50°C to + 60°C. The contractor is required to confirm the fire rating at these temperatures.

4.9 Operation of the extinguisher shall be by squeeze grip lever, which provides shut-off when released. Lever design shall be such that the extinguisher is capable of being operated by personnel having the minimum of training and without protective clothing, but also readily used by an operator (British Forces Serviceman) wearing in-service Personal Protection Equipment (PPE).

4.10 Release/Safety Pin. This pin, which will be held captive to the discharge head assembly and manufactured from Stainless Steel, is to be held safely in place by a suitable restraining seal with a breaking strain in accordance with BS EN 3 requirements.

5. **DIMENSIONS/WEIGHT**. The extinguisher and extinguisher bracket FV 3203179 shall be dimensionally compatible so that a firm fit is maintained between the extinguisher and the bracket.

6. **TESTING**

6.1 **General**

6.1.1 As a requirement of the tender for the supply of extinguishers the contractor selected shall be instructed to nominate an approved third party testing organisation to carry out tests as described below. Contractors who have previously carried these tests successfully can comply with this requirement by supplying certified copies of the tests results as part of their tender responses.

6.1.2 All tests and retesting carried out shall be at the contractor's own expense.

6.1.3 Representatives of the GSV-IPT & the MoD Fire Service may wish to witness testing of the extinguishers (outside of the requirements of BS EN3, the contractor prior to such testing shall give adequate notification to GSV-IPT & MoD Fire service. Point of contact for this notification will be the Project Manager contactable through the Commercial Officer named in the Tender documents.

6.1.4 All test results shall be recorded and made available to GSV-IPT through tender responses.

6.1.5 All tests as described below shall be concluded to the satisfaction of GSV-IPT & the MoD Fire service before a contract for the supply of fire extinguishers is awarded.

6.1.6 The specified tests shall be in addition to the tests required at BS EN 3.

Vibration Tests

6.2.1 The fire extinguisher shall be capable of withstanding vibration tests recommended for wheeled and tracked vehicles in accordance with Defence Standard 00-35 (Part 3/3) Chapter 2-01 Test M1 Basic Vibration Tests. Three in number are to be subjected to this vibration testing at -35°C

6.2.2 To simulate as far as possible in service conditions the tests shall be conducted complete with the extinguisher bracket (FV 3203179). The bracket shall be affixed to the test apparatus using its mounting holes. The extinguisher shall be mounted in the bracket, in its normal position.

6.2.3 Prior to testing the extinguisher and bracket shall be conditioned at -35°C for a period of 24 hours. The vibration test shall then be conducted at an ambient temperature of -35°C.

6.2.4 Immediately following the test the extinguisher shall be discharged. Not more than 10% of the charge shall be retained as defined in BS EN 3

6.2.5 Following the vibration test a physical inspection of the extinguisher shall show no signs of damage. All parts shall be fully functional.

6.3 **Operation at Low and High Temperature – Temperature/Climatic Conditions Def Stan 00-35 Part 2 Range -50°C to +60°C**

6.3.1 A sample batch of 6 extinguishers shall be conditioned at a temperature of -50°C for a period of 24 hours.

6.3.2 A sample batch of 6 extinguishers shall be conditioned at a temperature of +60°C for a period of 24 hours.

6.3.3 Immediately following temperature conditioning 3 extinguishers from each of the conditioned batches shall be tested for effectiveness against 3 Class A fires and 3 against Class B fires in accordance with BS EN 3. The Fire rating shall be recorded.

NOTE:

The conditioning temperature in 6.3 shall supersede that specified in BS EN 3

6.4 **Water Immersion Test**

6.4.1 Two extinguishers shall be fully immersed, in a horizontal attitude, in water to a depth of 500mm for a period of 24 hours. The water temperature shall be 10°C+ or -2°C.

6.4.2 When the specified immersion period has lapsed, the extinguisher shall be removed from the water and discharge tested. The extinguisher shall be in a fully functional condition including the pressure gauge and shall operate in accordance with BS EN 3.

6.5 **Drop Tests**

6.5.1 Two fully charged and pressurised extinguishers shall be subjected to Drop Tests from a height of 1 metre onto a flat concrete surface. The ambient temperature during these tests shall be 20°C+ or -2°C. The required tests are defined in 6.5.2, 6.5.3 and 6.5.4.

6.5.2 Test 1. Position one extinguisher with its longitudinal axis in the vertical position, operating head facing downwards and drop once from a height of one metre.

Test 2. Position the other extinguisher with its longitudinal axis in the horizontal position and drop once from a height of one metre.

6.5.3 Following the tests both the extinguishers shall retain sufficient pressure for a period of not less than 3 hours so as to maintain the pressure-indicating gauge in the "green sector".

6.5.4 Both the extinguishers shall be discharge tested. Each extinguisher shall function in accordance with BS EN 3 and not more than 10% of the charge shall be retained.

NOTE:

1. The drop tests shall be in addition to the impact tests specified in BS EN 3

2. Damage incurred as a result of drop testing in implementing the requirements of shall be disregarded, as long as functionality is maintained.

7. EXTINGUISHER COLOUR AND MARKING

7.1 Extinguisher body colour, colour coding (Blue band 20mm wide) and marking, including labels, shall be tested and subjected to the ageing effects of ultraviolet light and shall be in accordance with BS EN 3.

7.2 In addition to Clause 7.1, extinguishers shall be clearly and indelibly marked with the NATO Stock Number, Contract Number and Date of Manufacture.

8. MAINTENANCE AND SERVICING

8.1 Maintenance spares shall be made available for the estimated service life of the extinguisher; this shall be a minimum of 5 years.

8.2 The shelf life of the extinguisher, when regularly maintained in accordance with BS 5306 Part 3 shall normally not be less than 5 years.

9. OPERATING AND MAINTENANCE INSTRUCTIONS – SAFETY DATA

NOTE: Maintenance instructions shall include recommended maintenance and testing intervals.

9.1 Individual extinguishers must be labelled with the date of production in the form of MM/YY, the date of first examination again in the form MM/YY & Julian Ref.

9.2 The extinguisher shall display an approved sticker (see Annex B) containing a 6 digit number denoting, the week, month and year of manufacture (example: 041009 – this would define the date of manufacture as the fourth week of October 2009).

9.3 In addition to the above information the next due inspection date is to be included.

10. SAMPLES

In addition to samples for testing as specified in Section 6, 3 sample extinguishers representative of the manufacturer's production model may, at the request of GSV IPT, be supplied for evaluation by the DSEF POL MOD Fire Services.

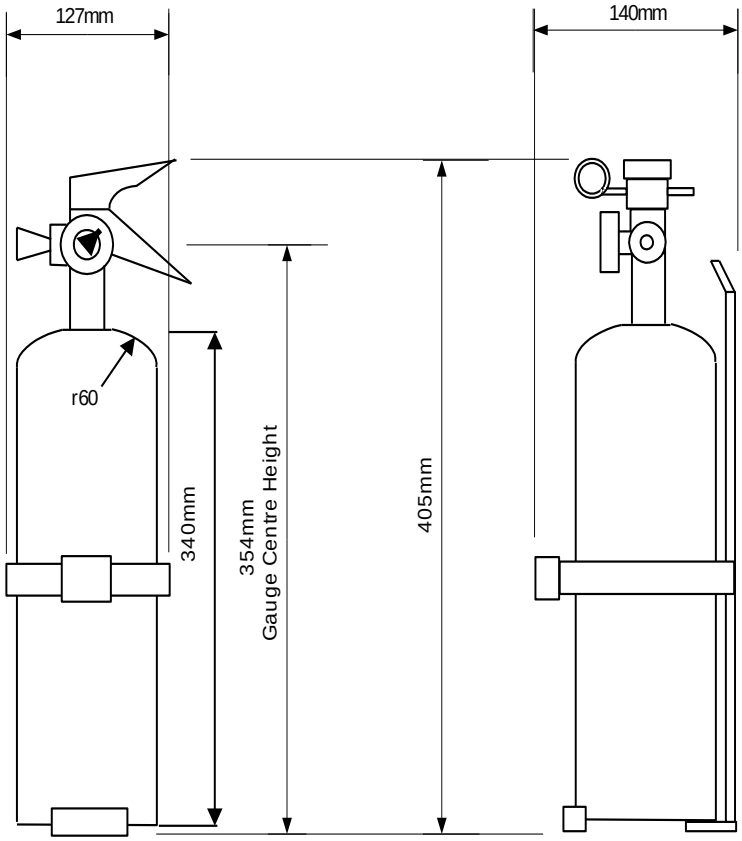
Annex A to Specification GSV-IPT Mat Man 017
Issue 1 dated ** April 2009

EXTINGUISHER AND MOUNTING BRACKET SPACE ENVELOPE DIMENSION FOR VEHICLE APPLICATION

When the extinguishers are to be mounted the bracket shall comply with FV Drawing Number 3203179.

Space Envelope

The extinguisher and bracket assembly shall, when supplied for fitment to a vehicle, comply dimensionally and be within the envelope shown in the diagram below:



Annex B to Specification GSV-IPT Mat Man 017
Issue 1 dated 17th April 2009

The instructional marking on the Extinguisher shall be silk screened for weather resistance. The markings shall be those required by BS EN 3
The following additional markings are required:

The Government Property Marking (Pheon)

The Date of Manufacture in MM/YY

The Date of the First Examination in DD/MM/YY

Operating Instructions

NATO Stock Number: 6MT1/4210-99-998-3537

The extinguisher shall also have an Inspection Record Label printed on vinyl attached to the rear of the body colour Ref to BS381C Ref No 166 in French Blue lettering on a White background as shown below:

EXAMINATION RECORD LABEL
WHITE BACKGROUND, BLUE LETTERING

EXAMINATION RECORD	
EXAMINATION DATE DD/MM/YY	**EXAMINED BY**
DO NOT REMOVE	

To be Weatherproof but must be able to be written on using indelible pen.