

1-GP-130a
24 November 1961
CANCELLATION
26 June 1967

CANADIAN GOVERNMENT SPECIFICATIONS BOARD

Specification
for

PAINT POWDER; CEMENT, WHITE AND TINTED .

CGSB Specification 1-GP-130a, dated 24 November 1961, is cancelled as of 26 June 1967 and is superseded by:

- Type I 1-GP-138 Paint: Flat, Exterior, Latex Type
- Type II 1-GP-144 Coating: Stucco and Masonry, Exterior and Interior, Alkyd Type
- 1-GP-162 Coating: Stucco and Masonry, Exterior and Interior, Emulsion Type
- 1-GP-163 Coating: Stucco and Masonry, Exterior and Interior, Styrene-Butadiene Copolymer, Solvent Type

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SPECIFICATION

FOR

PAINT POWDER; CEMENT, WHITE AND TINTED

1-GP-130a

24 NOVEMBER 1961

SUPERSEDES 1-GP-130

23 NOVEMBER 1956

THIS SPECIFICATION APPLIES TO PORTLAND CEMENT BASE PAINT POWDER THAT, WHEN MIXED WITH WATER, IS SUITABLE FOR INTERIOR AND EXTERIOR USE ON POROUS SURFACES OF MASONRY, CONCRETE, STUCCO, COMMON BRICK, MASONRY BLOCK AND ROUGH PLASTER (EXCEPT GYPSUM PLASTER).

NATIONAL RESEARCH COUNCIL, OTTAWA, CANADA

Price

15 CENTS

COMMENTS AND ENQUIRIES REGARDING THE TECHNICAL CONTENT OF THIS SPECIFICATION SHOULD BE ADDRESSED TO THE CGSB SECRETARY.

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PIGMENTS AND RELATED COMMODITIES

and

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CANADIAN GOVERNMENT SPECIFICATIONS BOARD

Specification
for

PAINT POWDER; CEMENT, WHITE AND TINTED

1. DEFINITION

- 1.1 This specification applies to portland cement base paint powder that, when mixed with water, is suitable for interior and exterior use on porous surfaces of masonry, concrete, stucco, common brick, masonry block and rough plaster (except gypsum plaster).
- 1.2 Material to this specification is not intended for use on floors, on exterior surfaces below grade, or as lining for swimming pools and water tanks.
- 1.3 For more detailed information on uses, see 8.1.

2. APPLICABLE PUBLICATIONS

The following publications are applicable to this specification:

- 2.1 CGSB 1-GP-12, Standard Paint Colors.
- 2.2 CGSB 1-GP-71, Methods of Testing Paints and Pigments.
- 2.3 ASTM Standards on Paint, Varnish, Lacquer and Related Products (and latest supplement).
- 2.4 ASTM Standards on Cement.
- 2.5 Reference to the above publications and other specifications is to the issues in effect on the date of invitation to tender, unless otherwise specified.

3. CLASSIFICATION

- 3.1 The cement paint powder shall be supplied in the following two types, as specified by the purchaser:

Type I - Without siliceous aggregate, for general use.

Type II - With siliceous aggregate, for open-texture surfaces.

4. GENERAL REQUIREMENTS

- 4.1 Paint complying with this specification shall be in powder form, free from lumps that are not easily friable, and shall mix with water in equal proportion by volume to form on simple stirring a homogeneous paint showing no unwetted pigment particles.

4.2 When mixed with water in accordance with the manufacturer's instructions, the cement paint powder shall be suitable for brush application.

4.3 When applied under the proper conditions, the mixed paint shall bond with the surface and with superimposed succeeding coats to form a cementitious finish of high durability.

4.4 Color - The paint shall be supplied in 1-GP-12 colors as agreed between the purchaser and supplier.

4.5 Qualification - When requested by the purchaser, the paint powder shall be a product qualified by the specified procedure, and such qualification shall be a prerequisite for tendering (see 8.3).

5. DETAIL REQUIREMENTS

Paint powder to this specification shall comply with the following detail requirements:

5.1 Physical and Working Properties - When applied to damp, porous concrete with a fiber brush and allowed to stand 18 hours in an atmosphere free from chemical fumes at 70-75 °F (21-24 °C) and 50-55 per cent relative humidity, the paint shall dry to a hard, opaque, flat finish of uniform color that will not powder, chip or rub off. Tints shall be uniform in color and free from streaks, spots or mottling.

Method 9.3

5.2 Composition - Upon analysis, the powder shall show a chemical composition in per cent by weight, according to type, as follows:

		TYPE I		TYPE II		Test
		Min	Max	Min	Max	Method
5.2.1	White Portland Cement	50	70	50	70	Par. 7.6
* 5.2.2	White Silica Sand	-	Nil	20	40	
5.2.3	Carbonates, as CO ₂	-	3	-	3	50.10
** 5.2.4	Titanium Dioxide	3	-	3	-	ASTM D1394
5.2.5	Calcium or Sodium Chloride, as NaCl, %	3	5	3	5	Par. 7.5
5.2.6	Hydrated Lime, %	-	25	-	25	Par. 7.6
5.2.7	Organic Binder	-	Nil	-	Nil	86.1

5.3 Reflectance - White paint shall have an apparent daylight reflectance of not less than 80 per cent relative to magnesium oxide.

Method Par. 7.4

5.4 Limeproofness - Color pigments used shall be limeproof.

Method 48.1

5.5 Accelerated Weathering - The paint film shall show no cracking or flaking and not more than a slight change in color after fifteen 24-hour cycles in an accelerated weathering machine.

Method 122.18

* See also 5.6.2.

** Nonchalking. For dark shades, tinting materials may replace opaque white pigments.

5.6 Sieve Analysis*

5.6.1 Type I - shall entirely pass a 149-micron (No. 100 mesh) sieve.

5.6.2 Type II - The silica sand shall pass an 841-micron (No. 20 mesh) sieve and be retained on a 149-micron sieve. All other ingredients shall pass the 149-micron sieve. At the discretion of the testing authority, the sand fraction composition may be confirmed by analysis.

6. PREPARATION FOR DELIVERY

6.1 Unless otherwise specified commercial packaging, packing and marking shall be acceptable.

6.2 Labelling - In addition to labelling requirements of any relevant Acts or Regulations, each container shall be suitably labelled to show the following information:

Manufacturer's Name and Address

Name of Material

CGSB Specification No.

Type

Qualification No. (when required)

1-GP-12 Color

Manufacturer's Batch No.

Manufacturer's Code No.

Mixing Instructions (with water)

Directions for use

7. INSPECTION

7.1 Sampling - Sampling shall be carried out in accordance with Section 1.3 of CGSB 1-GP-71.

7.2 Testing - Unless otherwise specified, the methods of testing shall be those specified in 1-GP-71 or in ASTM Standards on Paint, Varnish, Lacquer and Related Products, using the method specified with each requirement.

7.3 Classification of Tests - Tests for determining compliance with this specification shall be classified as follows:

7.3.1 Qualification Tests - Those tests that are performed on all samples submitted for qualification as a satisfactory product. They shall consist of the tests necessary to establish compliance with all the requirements of this specification.

7.3.2 Lot Acceptance Tests - Those tests that are used to determine the acceptability of a lot or batch of a qualified product. The testing authority may test the material for compliance with any of the requirements of this specification, and may reject a lot or batch on the basis of any requirement in the specification.

7.4 Reflectance and Color - Apply sufficient coats of the well-mixed paint to a concrete panel (Method 9.3) until an additional coat produces no appreciable change in color. Allow the last coat to dry hard (18 hours) and then determine reflectance according to ASTM E-97.

7.5 Calcium or Sodium Chloride - Determine chlorides by the standard gravimetric method and express as NaCl.

* See CGSB 8-GP-1, Sieves; Testing, Woven Wire.

7.6 Portland Cement

7.6.1 Determine total CaO and Ca(OH)_2 present as free lime, in accordance with ASTM C114, Chemical Analysis of Portland Cement.

7.6.2 Compute the amount of CaO combined with CO_2 .

7.6.3 Add CaO as free lime and CaO combined with CO_2 , and subtract the sum from the total CaO . Multiply the difference by 1.6 to obtain percentage of portland cement in the powder. (Factor is based on CaO in cement being 62.5 per cent.)

8. NOTES

8.1 Intended Uses - Paint complying with this specification is intended to provide decorative, protective and water-repellant coatings over porous masonry surfaces.

8.1.1 TYPE I - (without aggregate) for general use.

TYPE II - (with aggregate) for open-texture walls, such as cinder block, where a heavy coat is required to fill joints and crevices.

8.1.2 This paint must not be applied on floors, interior of swimming pools or water tanks, or on exterior surfaces below grade.

8.1.3 Surfaces to which this paint is applied must be free from dirt, dust, oil, lacquer, form coatings, chalking, or anything that would interfere with the tight adherence of the paint to the surface to be painted.

8.1.4 Cement powder paint must not be applied at air temperatures below 40°F (4°C).

8.1.5 If the surface has been painted previously with an oil paint, emulsion paint, or a cement paint that is freely chalking, the previous coating must be removed by sand blasting.

8.1.6 The surface should be porous and should absorb water freely. Surfaces that do not absorb water sprinkled on them must not be painted with this type of paint.

8.1.7 For best results two coats should be applied. Where waterproofness properties are desired, the first coat should be scrubbed into the surface with a stiff bristle brush. The second coat should be applied not less than 24 and not more than 48 hours later.

8.1.8 The surface must be kept wet while painting to get good results. This paint, being basically cement, requires moisture for proper curing and this moisture must come from the surface. If insufficient water is applied, the result will be a badly chalking finish of irregular color, difficult to repaint.

8.2 Ordering Data - Purchasers should specify color if other than white is required; packaging, packing and marking if commercial practice is not suitable; and if qualification is required.

8.3 Qualification Procedure - Details regarding procedure for qualification of 1-GP-130 paint powder may be obtained from:

Chief, Testing Laboratories
Department of Public Works
Ottawa, Ontario.

8.4 Related Specifications

8.4.1 1-GP-138, Paint; Flat, Exterior Latex Type, for Masonry.

8.4.2 1-GP-144, Coating; Stucco and Masonry, Alkyd Type.

8.5 The publications referred to in 2.1 and 2.2 are obtainable from the CGSB Secretary.

8.6 The publications referred to in 2.3 and 2.4 are obtainable from the American Society for Testing and Materials, 1916 Race Street, Philadelphia 3, Pa., U.S.A.

Correspondence regarding this specification should be addressed to the Secretary, Canadian Government Specifications Board, National Research Council, Ottawa 2, Canada.