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1-GP-65
CANCELLATION
10 November 1955

CANADIAN GOVERNMENT SPECIFICATIONS BOARD

Specification
for

PRIMING PAINT FOR STEEL; IRON OXIDE - OIL
VARNISH TYPE

CGSB Specification 1-GP-65, dated 28 June 1948 is cancelled
as of 10 November 1955.

1-GP-65
28 June 1948
AMENDMENT No.1
25 June 1953

CANADIAN GOVERNMENT SPECIFICATIONS BOARD

Specification
for

PRIMING PAINT FOR STEEL; IRON OXIDE-OIL VARNISH TYPE

3. CONSISTENCY

Change this requirement to read as follows:

"The consistency of the paint shall be not less than 60 Krebs Units and not more than 85 Krebs Units, as determined with the Stormer Viscosimeter.

Method 4.5"

Issued 28 June, 1948

Supersedes Issue 4 August, 1942
and Amendment.

CANADIAN GOVERNMENT PURCHASING STANDARDS COMMITTEE

Specification for
PRIMING PAINT* FOR STEEL; IRON OXIDE-OIL VARNISH TYPE

1. Definition

This specification applies to priming paint suitable for general use on steel.

2. General

The paint shall consist essentially of iron oxide together with a rust inhibiting pigment adequately milled with a water-resistant vehicle. The paint shall be of brushing consistency and shall have good adhesion to steel.

3. Consistency

The consistency of the paint shall be not less than 10 seconds nor more than 50** seconds at 25°C. (77°F.) as determined by the Gardner mobilometer. Method 4.4

4. Flash Point

The Pensky-Martens flash point of the paint shall be not lower than 35°C. (95°F.) closed cup test. Method 3.1

5. Drying Time

The paint shall dry in not more than 16 hours.** Method 5.1

6. Coarse Particles

The paint shall not contain more than 2.0 per cent of material retained on a 44 micron sieve. Method 15.1

7. Skinning Properties

The paint shall be "non-skinning". Method 10.1

*See also Specification No. 1-GP-14, Red Lead (Dry Pigment, Paste, and Mixed Paint); 1-GP-40, Priming Paint for Steel, Zinc Chromate-Oil Varnish Type; 1-GP-46, Primer, Zinc Chromate, for Light Alloys, Semi-paste with thinner; 1-GP-79,** Paint, Primer Surfacer; 1-GP-81,** Priming Paint for Metals, Types I and II.

**Indicates changes made in present revision.

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8. Volatile Portion

The content of volatile matter shall not exceed 30 per cent of the paint. Method 17.1

9. Pigment Content

The content of pigment shall be not less than 35 per cent of the paint. Method 21.1

10. Composition of Pigment

The pigment shall comply with the following requirements: iron oxide (Fe_2O_3) minimum 40 per cent; red lead minimum 12 per cent or zinc chromate yellow minimum 7 per cent, not less than 80 per cent of the remainder shall be siliceous matter. Method 50.5

11. Water Resistance

(a) The dried paint film shall withstand immersion in water at 20 to 25°C. (68 to 77°F.) for 18 hours and after subsequent drying for 2 hours shall show no softening, blistering or peeling. Method 110.1

(b) The dried paint film shall withstand immersion in boiling water for 15 minutes and upon removal and drying for 2 hours, the film shall show no softening, checking, peeling or other visible defect. Method 110.1

12. Flexibility

The dried paint film shall not crack or peel when subjected to the bending test using a 1/8" mandrel. Method 119.1

13. Methods of Sampling and Testing

(a) Sampling shall be carried out in accordance with section 1.4 of Schedule 1-GP-71: Methods of Testing Paints and Pigments.

(b) The methods of testing shall in all cases be those specified in the same Schedule, using the sections indicated by the numbers following each requirement.

Correspondence regarding this specification should be addressed to the Secretary, Canadian Government Purchasing Standards Committee, National Research Council, OTTAWA, Canada.

TENTATIVE

No. 1-GP-65-1942.

Issued 4 August, 1942.

Amended 17 March, 1943.

CANADIAN GOVERNMENT PURCHASING STANDARDS COMMITTEE

Specification for
Priming Paint* for Steel; Iron Oxide-Oil Varnish Type

1. Definition

This specification applies to priming paint suitable for general use on steel.

2. General

The paint shall consist essentially of iron oxide pigment together with a rust inhibiting pigment adequately milled with a water-resistant vehicle. The paint shall be of brushing consistency, and shall have good adhesion to steel.

3. Consistency

The consistency of the paint shall not be less than 10 seconds nor more than 30 seconds at 25°C. (77°F.) as determined by the Gardner mobilometer. (Appendix B)

4. Flash Point

The flash point of the paint shall not be lower than 35°C. (95°F.) closed cup test. (Appendix C)

5. Drying Time

The paint shall dry in not more than 12 hours. (Appendix D)

6. Coarse Particles and Skins

The paint shall not contain more than 2.0 per cent of material retained on a 44 micron sieve.

It shall be "non-skinning". (Appendix E)

*See also Specifications No. 1-GP-14, Red Lead (Dry Pigment, Paste, and Mixed Paint); 1-GP-40, Priming Paint for Steel; Zinc Chromate-Oil Varnish Type; 1-GP-46, Primer, Zinc Chromate, for Light Alloys, Semi-paste with Thinner.

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7. Volatile Portion

The content of volatile matter shall not exceed 30 per cent of the paint. (Appendix J)

8. Pigment Content

The content of pigment shall not be less than 35 per cent of the paint. (Appendix J)

9. Composition of Pigment

The pigment shall comply with the following requirements: iron oxide (Fe_2O_3) minimum 40 per cent; red lead minimum 12 per cent or zinc chromate yellow minimum 7 per cent, not less than 80 per cent of the remainder shall be siliceous matter. (Appendix F)

10. Water Resistance

The dried paint film shall withstand cold water for 18 hours and boiling water for 15 minutes, and after subsequent drying for 2 hours shall show no softening, checking, peeling, or other visible defect. (Appendix G)

11. Flexibility

The paint shall not crack when subjected to the flexibility test described in Appendix H.

A P P E N D I X

Methods of Sampling and Testing

A. Sampling

A single unopened container, selected at random from each lot of 1000 containers or less, shall be supplied for test. When the capacity of containers exceeds one gallon, the sample may be procured by opening a container, thoroughly mixing its contents and withdrawing not less than one pint, which shall be placed immediately in an air-tight can, completely filling it. Particular attention shall be paid to the thorough mixing of the paint in the container before the sample is withdrawn.

B. Consistency

The Gardner mobilometer shall be used with a disc perforated with 51 holes each 1/16 inch in diameter, the weight of the disc, plunger, and weight pan being 100 gm.

The paint is stirred thoroughly and strained through a 177 micron sieve. The mobilometer is levelled by means of the screws in the base and the cylinder is filled to a depth of 20 cm. with the paint. The test is carried out at a temperature of $25 \pm 2^\circ\text{C}$. The plunger is timed, by means of a stopwatch, while it falls through a distance of 10 cm. The plunger is raised, the paint is wiped from the stem and the test is repeated. Six measurements are made; the first is discarded, and the mean of the succeeding five readings is taken as a measure of the consistency.

C. Flash Point

The flash point shall be determined by means of a closed cup tester in accordance with Procedure D56-36 of the American Society for Testing Materials (A.S.T.M.).

D. Drying Time

To determine the time of drying, the sample is applied to a thoroughly cleaned, non-absorbent surface so as to form a dry film approximately 40 microns thick. The film is dried at a temperature of $25 \pm 2^\circ\text{C}$., a relative humidity of 60 ± 5 per cent, and an illumination of 30 ± 5 foot candles. After about two hours, the film is tested at intervals with the finger at points not less than 2 cm. from the edges. The film is considered dry when it no longer adheres to the finger and does not rub up appreciably when the finger is lightly rubbed across the surface.

E. Coarse Particles and Skins

The content of coarse particles and skins shall be determined in accordance with A.S.T.M. Procedure D185-37.

The skinning properties shall be observed by the following procedure:

A container is half filled with the paint, covered with a tight-fitting lid and then inverted momentarily to seal the lid. The container is then allowed to stand for 48 hours at $25 \pm 2^\circ\text{C}$., at the end of which time it is opened and the contents examined. If not more than a very slight surface skin is visible, the paint shall be considered "non-skinning".

F. Composition of Pigment

The analysis of the dry pigment shall be made in accordance with A.S.T.M. Procedure D126-36. (See also A.S.T.M. Procedure D444-39.)

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G. Water Resistance

Panels for the hot and cold water tests shall be prepared in accordance with A.S.T.M. Procedure D154-38. A separate panel shall be used for each test. After immersion for the specified time, the panels are removed and allowed to dry for two hours before their appearance is observed. A slight change of colour shall be disregarded.

H. Flexibility

The paint is brushed out on a sheet of tin plate, approximately 0.3 mm. thick, to give a dried film 30 to 40 microns thick. It is allowed to dry for 13 hours at room temperature and then baked at 105-110°C. for 5 hours. The panel is cooled for 15 minutes at 25 ± 2°C. It is then placed over a 1/8 inch mandrel, with the painted side uppermost, and bent double rapidly, the actual time of bending being not less than 1 second nor more than 1½ seconds.

J. Other tests required by this specification shall be performed in accordance with A.S.T.M. Procedure D215-41.

Correspondence regarding specifications issued by this Committee should be addressed to The Secretary, Canadian Government Purchasing Standards Committee, National Research Council, Ottawa, Canada.