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Comments on A.S.A. Z21.5 - 1956 and Z21.5a - 1957 Approval Requirements for Domestic Gas Clothes Dryers; and A.S.A. Z21.19 - 1941: Approval Requirements for Refrigerators Using Gas Fuel
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NATIONAL RESEARCH COUNCIL OF CANADA

DIVISION OF BUILDING RESEARCH

for

No.
240

TECHNICAL NOTE

NOT FOR PUBLICATION

FOR INTERNAL USE

PREPARED BY A.D. Kent and
N.B. Hutcheon

CHECKED BY

APPROVED BY NBH

PREPARED FOR C.S.A. Committee on Gas Burning
Appliances and Equipment

DATE December 1957

SUBJECT

Comments on A.S.A. Z21.5 - 1956 and Z21.5a - 1957

Approval Requirements for Domestic Gas Clothes Dryers;

and A.S.A. Z21.19 - 1941: Approval Requirements

for Refrigerators Using Gas Fuel.

The above A.S.A. specifications have been reviewed as a basis for the preparation of corresponding CSA specifications. All references to American Standards are listed below, with information on existing Canadian Standards where these exist. Reference is made also to items which are potentially in conflict with existing Canadian codes such as the National Building Code, 1953. All specified temperatures are listed as a convenience in further consideration of these specifications.

A.S.A. Z21.5 - 1956 and Z21.5a - 1957

Standards

<u>Page</u>	<u>Paragraph</u>	<u>American Standard</u>	<u>Canadian Standard</u>
2	1.4.1	A.S.A. B1.1 - 1949	C.S.A. B1.1 - 1949
2	1.4.2)	A.S.A. B18.6 - 1947	(C.S.A. B33.1 - 1950
2	1.4.3)	A.S.A. B18.2 - 1952	(
2	1.6.5)	A.S.A. B36.10 - 1950	(C.S.A. B62 - 1949
5	1.12.1)		(C.S.A. B63 - 1949
3	1.6.8	A.I.S.I. C1010	No C.S.A. Probably use A.I.S.I.
1(Addenda) 6	1.9.2c) 1.15.2)	A.I.S.I. 416	No C.S.A. Probably use A.I.S.I.

A.S.A. Z21.5 - 1956 and Z21.5a - 1957 (contd.)

Electrical equipment, wiring, motors

<u>Page</u>	<u>Paragraph</u>	
7-10	1.19	Instead of A.S.A. C1 - 1956 use C.S.A. C22.1 - 1953 (this should be checked with Electrical Code Committee)

American Standard Listing and Installation Requirements

<u>Page</u>	<u>Paragraph</u>	<u>Code Number</u>	<u>Title</u>
4 17	1.9.3) 2.6.1)	Z21.20 - 1951	Automatic pilots
4 18	1.11.2) 2.8)	Z21.15 - 1954	Gas valves
5 19	1.13.1) 2.11)	Z21.21 - 1952	Automatic valves for gas appliances
6 19	1.14.1) 2.10)	Z21.18 - 1955	Domestic gas appliance pressure regulators
6	1.16.1	Z21.35 - 1945	Gum protective devices
15	1.27.3	Z21.30 - 1954	Gas piping and gas appliances in buildings
7 18	1.18.2) 2.9.1)	Z21.23 - 1940	Gas appliance thermo- stats

These references will presumably be changed to the corresponding C.S.A. Standards when they are completed.

Miscellaneous

1. Sheet metal gauges

In the above standard sheet metal thicknesses are given in gauges. There is no Canadian Standard on sheet metal gauges, although at present C.G.S.B. is working on gauging. The National Building Code, 1953 refers to U.S. Standard gauge.

A.S.A. Z21.5 - 1956 and Z21.5a - 1957 (contd.)

2. Pipe sizes

Nominal pipe sizes are presumably in accordance with A.S.A. B36.10 - 1950 (no C.S.A. Standard).

Pipe threads are presumably in accordance with A.S.A. B2.1 - 1945 (no C.S.A. Standard).

3. Wire screen

<u>Page</u>	<u>Paragraph</u>
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6	1.15.3	No. 40 mesh brass, aluminum or equivalent.
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This is equivalent to 420 microns mesh as specified in C.G.S.B. 8-GP-1a.

4. Test gases

Are Canadian test gases the same?

5. Definitions

Heating value (total) - higher calorific value. Others refer to lower calorific value.

6. Temperatures

<u>Page</u>	<u>Paragraph</u>
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2	1.6.3	) Minimum melting point of materials 1450°F and 1100°F
3	1.8.3	
5	1.12.10	Maximum temperature on aluminum tubing 700°F
20	2.14.1	Maximum allowable exhaust temperature 200°F
20	2.14.2	Temperature limiting device setting 250°F
21	2.15	Surface and handle temperatures 40° to 80° above room temp.
22	2.16	Maximum temp. on combustible materials 90°F above room temp. (i.e., 160°F)

A.S.A. Z21.19 - 1941

Standards

<u>Page</u>	<u>Section</u>	<u>American Standard</u>	<u>Canadian Standard</u>
2	7.a	A.S.A. B36.10 - 1939	(C.S.A. B62 - 1949 C.S.A. B63 - 1949)
3	8.a	A.S.A. B1.1 - 1935	C.S.A. B1.1 - 1949
3	8.b	A.S.A. B18c - 1930)	C.S.A. B33.1 - 1950
3	8.c	A.S.A. B18.2 - 1941)	
6	15	A.S.A. B9 - 1939	C.S.A. B52 - 1951

Electrical Equipment

<u>Page</u>	<u>Section</u>	
4-5	12	Refer to Canadian Electrical Code.

American Standard Listing and Installation Requirements

<u>Page</u>	<u>Section</u>	<u>Code Number</u>	<u>Title</u>
2	6.a	Z21.15 - 1942	Gas valves
2	7.b	Z21.24 - 1941	Semi-rigid gas appliance tubing and fittings
3	9.b	Z21.20 - 1940	Automatic pilots
4	11	Z21.18 - 1934	Domestic gas appliance pressure regulators
5	14.b	Z21.12 - 1937	Draft hoods

These references will presumably be brought up to date in the revised Z21.19 and should be changed to the corresponding C.S.A. Standards when they are completed.

A.S.A. Z21.19 - 1941 (contd.)

Miscellaneous

1. Pipe sizes

Nominal pipe sizes are presumably in accordance with A.S.A. B36.10 - 1950 (no C.S.A. Standard).

Pipe threads are presumably in accordance with A.S.A. B2.1 - 1945 (no C.S.A. Standard).

2. Test gases

Are Canadian test gases the same?

3. Definitions

Draft hood - differs from N.B.C.

Flue - differs from N.B.C.

Heating value (total) - higher calorific value. Others refer to lower calorific value.

4. Temperatures

<u>Page</u>	<u>Section</u>	
4	10.3	Maximum fusing point of fusible plug 280°F
15	10	Maximum temp. on walls and wooden parts 90°F above room temp. (i.e., 160°F)

A.S.A. Z21.5 - 1956 and Z21.5a - 1957
A.S.A. Z21.19 - 1941

Agreement with National Building Code, 1953

There appears to be general agreement between the above two works and the National Building Code.

The N.B.C. does not detail metal composition, sheet thicknesses and temperatures as do the American Standards.