

Pub. No. 14.120-82

BUYER'S GUIDE

for
Farm
Buildings

February, 1982



CANADIAN
SHEET STEEL
BUILDING INSTITUTE

OBSOLETE
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“SO YOU’VE DECIDED YOU NEED A NEW BUILDING”

The Members of the Canadian Sheet Steel Building Institute have published this booklet as an aid to the decisions you will be making, as a checklist of the variety of items you may wish to consider, and to assist you in determining that the building quoted to you fulfills your needs.

The booklet contains a number of references you may need to assist you in determining, from the several types of buildings available and the various options and features, the appropriate building for the intended use. Two very important features concern your decision on the required snow and wind load capacities for the building you are choosing. These strength features will depend on your geographical location and the exposure of the proposed building site on your property.

The Advisory Committee on Steel Farm Buildings of the Canadian Sheet Steel Building Institute sincerely hope you will find this booklet of assistance in assuring that you have a safe and serviceable farm building. Should you need additional help, please consult your area representative or write directly to the manufacturers listed on the inside back cover.

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BUYER'S GUIDE FOR FARM BUILDINGS

I. BUILDING USE

The USE you intend for your building determines in a major way its recommended design strength. There are two principal categories affecting buildings intended for farm use and located on land devoted to the practice of farming.

1.1 A Low Human Occupancy farm building is a building, or major portion thereof, having an occupant density no greater than one person per 500 square feet (50 square metres) during normal periods of use.

Steel Farm Buildings for such use are designed in accordance with the Canadian Farm Building Code, issued by the Associate Committee on the National Building Code, and the Standard for Steel Farm Buildings published by the Canadian Sheet Steel Building Institute. Such farm buildings include: animal confinement buildings; buildings for storage of implements, crops or combinations thereof; and farm workshops not open for public access.

1.2 A High Human Occupancy farm building includes all other buildings intended for farm use including, but not limited to, such buildings as processing rooms, commercial workshops, auction or show arenas, or other areas likely to be occupied by groups of persons over extended periods.

Steel Farm Buildings for such use, are designed in accordance with the National Building Code of Canada, the applicable provincial regulations for such occupancies, and the Standard for Steel Building Systems published by the Canadian Sheet Steel Building Institute.

II. BUILDING SITE and LOCATION

The site you choose on your property can materially affect the needed load carrying capacity of the building of your choice. For example, if you should choose to place your building near or adjacent to a wind-break or another higher building, it is probable that the snow build-up on the roof will be such that the load carrying capacity of the building will need to be greater than if your building is sited in the open so as to be exposed to the wind on all sides.

The determination of the needed roof snow load capacity depends therefore not only on the expected snow fall in your geographical location, but also upon the degree of exposure to wind at your building site.

In addition to the effects of wind on the accumulation of snow, the building also needs to be designed for the appropriate wind resistance for your geographical location.

The Steel Farm Building Manufacturers of the Canadian Sheet Steel Building Institute state the roof snow load capacity and the wind resistance capacity for each building sold. You should determine therefore, that the snow and wind capacities so stated are equal to or greater than the nationally recommended values for your geographical location. (See Item III and/or consult your local Agricultural Representative in order to obtain these values)

III. SNOW AND WIND LOADS

Ground snow loads and hourly wind pressures for many locations in Canada are given in Chapter 1 of the Supplement to the National Building Code of Canada: *"Climatic Information for Building Design in Canada."* For locations not listed in the Supplement, the recommended design values may be obtained for the area concerned by writing to the Energy and Industrial Applications Section, Canadian Climate Centre, Atmospheric Environment Services, Environment Canada, 4905 Dufferin Street, Downsview, Ontario M3H 5T4. Since provincial or local regulations may separately provide minimum local snow-load design values, such requirements should be determined for your specific geographical location. If in doubt, consult your local Agricultural Representative.

Having determined the appropriate ground snow load for your geographical location as noted above, APPENDIX A of this booklet provides you with the relationship between the ground snow load and the applicable design roof snow load for your building. The design roof snow load will depend on the intended building use, degree of roof exposure and geographical location as well as factors which pertain to the size and shape of a particular building.

IV. ADDITIONAL CONSIDERATIONS

There are a number of additional items which may affect the design considerations and choice of your building. These include among others: the loads on the building as a result of special equipment you may intend to install such as cranes or roof mounted conveyor systems; uses such as material or crop storage which may exert internal outward pressure on the structure of the building; environmental control features, such as insulation and ventilation; and any special use of the building such as the storage of corrosive or combustible materials.

In your consideration of the use of the building, of particular importance of course, is the size of building you need now and for future expansion. Is the building you choose adaptable for further expansion? Are the door sizes adequate for your equipment?

We encourage you to discuss in detail the various items with your supplier. Your building dealer, contractor and/or manufacturer needs to be advised of these several features, in order to assist you in determining that you will receive a safe and serviceable building which will fulfill your anticipated needs.

V. WHY A STEEL BUILDING — SOME IMPORTANT BENEFITS

- *Rigorous Design Standards that are continuously improved and updated*
- *Pre-Engineered Strength and Stability — for long life*
- *Quality Products — durable and non-combustible*
- *Manufactured Under Controlled Conditions. Because more work is done in the factory — you save time through simplified erection.*
- *Fast Erection means early use.*
- *Economical to Build and Operate with a minimum of maintenance.*

VI. ADVISORY COMMITTEE ON STEEL FARM BUILDINGS

The Advisory Committee on Steel Farm Buildings of the Canadian Sheet Steel Building Institute was formed in May, 1979 to prepare guidelines for the proper design and application of safe and serviceable non-residential farm buildings. The Members of the Advisory Committee are shown on the inside back cover of this booklet.

One of the precepts of all Members of the Canadian Sheet Steel Building Institute is the development of industry product standards to promote safety and good practices.

In addition to this booklet, the Advisory Committee on Steel Farm Buildings has also prepared for publication;

1. *Standard for Steel Farm Buildings, September 1980*
2. *Snow Load Design Criteria for Low Human Occupancy Steel Farm Buildings, March 1981*
3. *Code of Standard Practice for Steel Farm Buildings, April 1981*

Copies of these publications are available free of charge from the Members of the Advisory Committee shown on the inside back cover, or directly from the Canadian Sheet Steel Building Institute.

RELATIONSHIP BETWEEN GROUND SNOW LOAD AND DESIGN ROOF SNOW LOAD

GROUND SNOW LOAD		DESIGN ROOF SNOW LOAD	
Metric Reference kN/m ² (1)	Pounds per square foot psf (2)	Sheltered Site Area (factor 0.8) psf (3)	Exposed Site Area (factor 0.6) psf (4)
1.0	21	*21	*21
1.1	23	*21	*21
1.2	25	*21	*21
1.3	27	22	*21
1.4	29	23	*21
1.5	31	25	*21
1.6	34	27	*21
1.7	36	29	*21
1.8	38	30	23
1.9	40	32	24
2.0	42	34	25
2.1	44	35	26
2.2	46	37	28
2.3	48	39	29
2.4	50	40	30
2.5	52	42	31
2.6	54	44	33
2.7	57	46	34
2.8	59	47	36
2.9	61	49	37
3.0	63	50	38
3.1	65	52	39
3.2	67	54	40
3.3	69	55	42
3.4	71	57	43
3.5	73	59	44
3.6	75	60	45
3.7	77	62	46
3.8	80	64	48
3.9	82	66	49
4.0	84	67	50
4.2	88	71	53
4.4	92	74	55
4.6	96	77	58
4.8	100	80	60
5.0	105	84	63
5.2	109	87	65
5.4	113	90	68
5.6	117	94	70
5.8	121	97	73
6.0	125	100	75
6.2	130	104	78
6.4	134	107	80
7.6	159	127	96
8.4	175	140	105

*Minimum value

ADVISORY COMMITTEE ON STEEL FARM BUILDINGS

ATCO Metal Ltd.
5115 Crowchild Trail SW
Calgary, Alberta T3E 1T9

Behlen-Wickes Company Limited
P.O. Box 1120
Brandon, Manitoba R7A 6A4

Butler Manufacturing Company (Canada), Limited
P.O. Box 5006
Burlington, Ontario L7R 3Z3

Fairford Industries Ltd.
P.O. Box 907
Moose Jaw, Saskatchewan S6H 4P6

Odyssey Building Systems Ltd.
A subsidiary of Odyssey Industries Incorporated
3500 Dufferin Street, Suite 401
Downsview, Ontario M3K 1N2

Westeel-Rosco Limited
1 Atlantic Avenue
Toronto, Ontario M6K 1X7

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