January 1, 1951

CANADIAN CHRYSOTILE ASBESTOS CLASSIFICATION

(List of Standard Grades set up by the Committee on Uniform Classification and Grading of Asbestos Mines Products. This committee was formed in 1931 at the instigation of the Minister of Mines of the Province of Quebec, and the list of grades has been revised from time to time. Latest revision December 1942)

The asbestos mines products are divided into two classes: "Crude Asbestos" and "Milled Asbestos," respectively, defined as follows:

"*Crude Asbestos*" consists of the hand-selected cross-vein material essentially in its native or unfiberized form.

"*Milled Asbestos*" consists of all grades produced by mechanical treatment of asbestos ore.

"Crude Asbestos" and "Milled Asbestos" are subdivided into groups designated and defined below.

Classification of the "Milled Asbestos" grades, in groups Nos. 3 to 7, inclusive, unless otherwise specified is based on the Quebec Standard Testing Machine (see illustration).

"*Shipping Test*" is the average for each carload or smaller shipment, of tests of representative samples taken at the time of shipping.

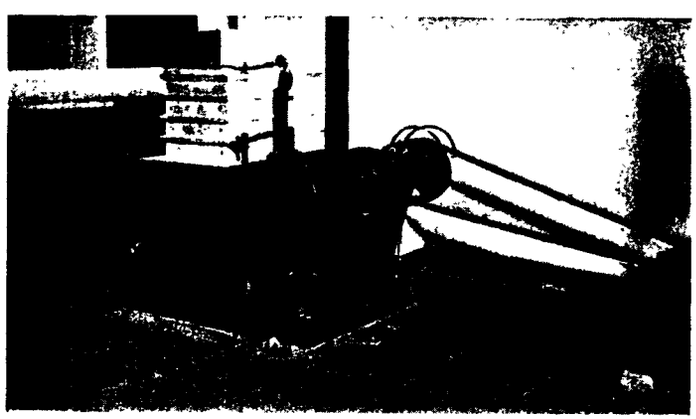
"*Guaranteed Minimum Shipping Test*" is that below which the actual shipping test shall not fall.

GROUP NO. 1	CRUDE NO. 1	Consists basically of crude ¾ inch staple and longer
GROUP NO. 2	CRUDE NO. 2	Consists basically of crude ⅜ inch staple up to ¾ inch
CRUDE RUN-OF-MINE		Consists basically of unsorted crudes
CRUDES SUNDRY		Consists of crudes other than above specified

GROUP NO. 3

Standard Designation of Grades	Guaranteed Minimum Shipping Test
3F	7 — 7 — 1.5 — 0.5
3K	4 — 7 — 4 — 1
3R	2 — 8 — 4 — 2
3T	1 — 9 — 4 — 2
3Z	0 — 8 — 6 — 2

Standard Designation of Grades		Guaranteed Minimum Shipping Test
Group No. 4		
4H		0 — 5 — 8 — 3
4K		0 — 4 — 9 — 3
4M		0 — 4 — 8 — 4
4R		0 — 3 — 9 — 4
4T		0 — 2 — 10 — 4
4Z		0 — 1.5 — 9.5 — 5
Group No. 5		
5D		0 — 0.5 — 10.5 — 5
5K		0 — 0 — 12 — 4
5M		0 — 0 — 11 — 5
5R		0 — 0 — 10 — 6
Group No. 6		
6D		0 — 0 — 7 — 9
Group No. 7	The affix "F" designates "Floats" in all subsections of Group No. 7	
7D		0 — 0 — 5 — 11
7F		0 — 0 — 4 — 12
7H		0 — 0 — 3 — 13
7K		0 — 0 — 2 — 14
7M		0 — 0 — 1 — 15
7R		0 — 0 — 0 — 16
7T		0 — 0 — 0 — 16
7W		0 — 0 — 0 — 16
Group No. 8	8S	Under 50 pounds per cubic foot loose measure.
	8T	Under 75 pounds per cubic foot loose measure.
Group No. 9	9T	Over 75 pounds per cubic foot loose measure.



Quebec Standard Asbestos Testing Machine, Model No. 2

QUEBEC ASBESTOS MINING ASSOCIATION[1]

(*APPROVED METHOD OF TESTING ASBESTOS FIBRES*)

¶1. Only the Quebec Standard Testing Machine Model No. 2 shall be used for the purpose of testing asbestos fibres.

¶2. The machine shall be manufactured, installed and operated according to the specifications issued by the National Research Council, and shall be kept in proper adjustment and in good working condition at all times.

¶3. The method of taking samples for testing shall be as follows: When testing Group 3 fibres, a composite sample shall be made up from each and every lot of 100 bags included in the number to be tested. Each composite sample shall be made up by taking a handful (about 4 ounces) from every fifth bag of the 100; that is to say, 20 handfuls are taken from each lot of 100 bags.

¶4. In the case of Group 4, 5, or 7 fibres, a composite sample shall be made up from each and every lot of 200 bags included in the number to be tested, and each composite sample shall be made up by taking a handful (about 4 ounces) from every tenth bag of the 200; that is to say, 20 handfuls are taken from each lot of 200 bags.

¶5. In every case the handful of fibre shall be taken from well inside the interior of the bag.

¶6. Each composite sample so made up shall first be allowed to approximate average work-room temperature and humidity, and then shall be thoroughly mixed on a smooth topped table while passing it thru the hands with a gentle rubbing action in order to break up and separate all clots and lumps. It then shall be divided into halves, quarters, etc., as necessary, and a representative one pound lot shall be weighed accurately and placed in the testing machine.

[1]Formerly Quebec Asbestos Producers' Association

QUEBEC STANDARD TESTING MACHINE AND ITS OPERATION

The Quebec Standard Asbestos Testing Machine (see illustration) consists of a nest of 4 boxes, measuring 24½"x14¾", resting on a table which is driven by an eccentric with $^{25}/_{32}$" throw and $1^{9}/_{16}$" travel. The boxes, which are superimposed one above the other, are numbered from the top down—1, 2, 3 and 4. The bottoms of boxes Nos. 1, 2 and 3 are made of brass screen of the following specifications:

Box No.	Screen opening	Diameter of Wire
1	0.500"	0.105"
2	0.187"	0.063" (4 mesh)
3	0.053"	0.047" (10 mesh)

4—Receptacle for the fines which fall thru the other three boxes.

To make a test, 16 oz. of asbestos is placed on the uppermost tray (No. 1) which is then covered and tightly clamped. The machine is started and by means of an automatic device is kept going until exactly 600 revolutions nave been made. (The speed of rotation is 300 r.p.m. in the old model No. 1 machine, and 328 r.p.m. in the new model No. 2 machine.) At the end of this time the asbestos which remains on each tray (box) is weighed. This gives the grade of asbestos fibre; the longest fibre naturally stays on the screen with the largest opening, whereas shorter fibre, according to its length, remains on screens (or trays) 2 or 3, or drops into the pan (lowest tray). The more fibre retained on the first screen, and the less fibre falling into the pan, the higher the grade and therefore the greater its value.

If, for instance, a customer buys 3K fibre of the specification 4-7-4-1, it means that in a sample of 16 oz., representing the average of the lot shipped, 4 oz. will remain on the top screen, 7 on the second and 4 on the third, while 1 oz. will go thru all the screens into the pan. It is evident that the figures of the test represent the proportion in ounces of the different lengths of fibre in a pound of asbestos.

The product known as "Crude Asbestos" consists of veins of asbestos, of the cross-fibre type, the length of which is ⅜" and longer; No. 1 Crude being material ¾" or longer and No. 2 Crude ⅜" to ¾". Crude asbestos is not graded on the Quebec Standard Asbestos Testing Machine.

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