

MANUFACTURES AND MATERIALS

QUALITY OF ROOFING SLATES.

The following are the general conclusions reached as the result of a series of tests of roofing slates, as given by Mr. Mansfield Merriam at the September, 1892, meeting of the American Society of Civil Engineers:

1. Slates containing soft ribbons are, by common consent, of an inferior quality, and should not be used in good work.
2. The soft roofing slates weigh about 173 pounds per cubic foot, and the best qualities have a modulus of rupture of from 7,000 to 10,000 pounds per square inch.
3. The stronger the slate, the greater is its toughness and softness, and the less is its porosity and corrodibility.
4. Softness, or liability to abrasion, does not indicate inferior roofing slate, but on the contrary it is an indication of strength and good weathering qualities.
5. The strongest slate stands highest in weathering qualities, so that a flexural test affords an excellent index of all its properties, particularly if the ultimate deflection and the manner of rupture be noted.
6. The strongest and best slate has the highest percentage of silicates of iron and aluminum, but is not necessarily the lowest in carbonates of lime and magnesia.
7. Chemical analyses give only imperfect conclusions regarding the weathering qualities of slate, and they do not satisfactorily explain the physical properties.
8. Architects and engineers who write specifications for roofing slate will

probably obtain a more satisfactory quality if they insert requirements for a flexural test to be made on several specimens picked at random out of each lot.

9. Although the field of this investigation is probably not sufficiently extended to fully warrant the recommendation, it is suggested that such specifications should require roofing slates to have a modulus of rupture, as determined by the flexural test, greater than 7,000 pounds per square inch.

THE KENT FREESTONE QUARRY.

The Moncton, N. B., *Times* states that the formation of a joint stock company is in contemplation to develop the Kent freestone quarry situated on the Moncton and Buctouche railroad. This quarry, opened a few years ago, consists of 30 acres, on the bank of the Cobequid river. The depth of stone to the level of water in the river where the quarry is now being worked is 60 feet, and further up the stream the quarry shows a solid body of stone 125 feet deep. Lack of capital has up to the present hindered the proper development of this quarry, as well as some others in the same province.

The capital stock of the Gurney Foundry Co., Toronto, has been increased from \$40,000 to \$350,000.

The business of the Toronto Furnace Co. will in future be carried on by the Toronto Furnace and Crematory Co., which has lately been incorporated with a capital stock of \$40,000.

The Steel Clad Bath and Metal Co., of Toronto, who a year or so ago established a factory for the manufacture of the specialties at Detroit, Mich., have lately shipped to England the necessary plant for a factory which it has been decided to establish there. This is certainly an evidence of commendable enterprise.

CREDIT VALLEY BROWN STONE

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SANDSTONE, fine grained, reddish brown. Contains quartz, and a little felspar and mica. The stone is in beds of four feet and under. Can be handled in pieces up to five tons. Quarry 300 yards from Railway.

Specimen.	Section under Pressure	Height.	Crushing Load.	Crushing Stress per sq. in.	Average Crushing Stress per Square Inch
A	Ins.	Ins.	Pds.	Pds.	Pds.
B	2 1/2 x 3	2 1/2	131,000	15,168	
C	2 1/2 x 3	2 1/2	130,000	14,751	
D	3 x 3	2 1/2	133,000	14,777	14,905

14,905 pounds is the average crushing strength per square inch of our Credit Valley Brown Stone.

The highest standard of test attained by any pure Sandstone in America.

IN confirmation of the facts above stated, we have pleasure in directing your attention to the accompanying table, showing the result of the test of our stone, in connection with the series of tests of building stones conducted in 1892 at the School of Practical Science, Toronto, under the direction of a committee of the Ontario Association of Architects.

By referring to the results of the tests above mentioned, it will be seen that the average crushing stress of the majority of Canadian and American sandstones is far below that of ours, the difference in our favor ranging from 75 to 50 per cent.

The Credit Valley Brown Stone, owing to its modest tone, harmonizes beautifully with red or cream colored brick.

It has been reported that there is difficulty in obtaining Credit Valley Brown Stone. To correct this mistaken notion, we wish to state to architects and the public that we have 40,000 cubic feet of stone ready to ship on the shortest notice, which can be followed up with an unlimited supply. Last year we made extensive additions to our plant and opened up new quarries and mines, and will supply promptly all orders given to us or our agents.

CARROLL, VICK & CO.

Quarries: Credit Forks, Ont. Office: 84 Adelaide St. West, TORONTO.

Montreal Agents: T. A. MORRISON & CO., 118 St. Peter Street.

PROVINCE OF QUEBEC ASSOCIATION OF ARCHITECTS.

The SEMI-ANNUAL EXAMINATION for admission to study and for registration will be held in the rooms of the Association, No. 186 St. James Street, on

TUESDAY AND WEDNESDAY, the twenty-seventh and twenty-eighth days of July, at 10 a.m. each day.

Intending candidates are required to give one month's notice to the undersigned. The fees are: For admission to study..... \$10.00

For registration..... \$5.00

ALEX. C. HUTCHISON,
Sec. P. Q. A. A.

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