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TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

P.W.D

DEPARTMENT

G.O. No.	2590-W	Press.
B.P. No.		Mis.
Dated	21-6-1878	197-

'Not to be folded or roughly handled'

25/8/86

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

21st June 1878, No. 2,590 W.

Buildings and Roads
Civil Works

Read the following paper:—

No. 214. Circular from the Government of India, Public Works Department, (Civil Works—Irrigation), dated Simla, 4th June 1878, No 46 P.W.

In continuation of Circular No. 18 P.W., dated the 2nd May 1877, the undersigned is directed to forward, for information, copy of correspondence regarding Messrs. W. Lees and Sons' Portland cement.

(Signed), G. T. SKIPWITH, Captain, R.E.,
Asst Secy to Govt of India.

To the Joint Secretary to the Government of Madras, Public Works Dept, Irrigation Branch

Nos 1,651-55 I

Copy of the following forwarded to the _____ for information.

FORT WILLIAM,
8th May 1878.

D. B. HORN,
Asst Secy to the Govt of Bengal,
in the P.W. Dept, Irrgn Branch.

Demi-official

From Messrs MACKINNON MACKENZIE and Co, Metal Mart, Calcutta, to the Executive Engineer, Cement Experiments Division,—(dated the 5th April 1878)

We have lately brought out a shipment of Portland cement by W. Lees and Sons, and as this make is not known in this side of India, and we are anxious to introduce it for use on the public works in this country, we shall be glad to know if you will be disposed to make experiments upon it and give us a report upon its qualities and strength. We should like to compare this with the brands that are in general demand, viz, White Brothers and Knight Bevens.

2 This cement comes to us highly recommended from home, and it has been used in the Dover pier, the Tyne embankments and bridge, the Amsterdam canal works, and on the Bombay side of India it is largely used. Our friends, Messrs W. Nicol and Company of that city, tell us that it stands 300 lbs per square inch, as against 200 lbs. of the best bazaar samples.

Memorandum from P. DEJOUX, Esq., Executive Engineer, Cement Experiments Division, to Messrs MACKINNON MACKENZIE and Co, Metal Mart, Calcutta,—(No 2,036, dated Sealdah, the 8th April 1878)

Referring to their letter of the 5th instant, the undersigned will be happy to undertake experiments upon the cement by W. Lees and Sons, provided a cask of it is sent, free of all charges, to this Office.

From P. DEJOUX, Esq., Executive Engineer, Cement Experiments Division, to Messrs MACKINNON MACKENZIE and Co, Metal Mart, Calcutta,—(No 2,044, dated Sealdah, the 24th April 1878)

With reference to your letter dated 5th instant, and in continuation of my No 2,036 of the 8th idem, I have the honor to furnish the following results of some experiments made on the cement from Messrs W. Lees and Sons, a cask of which was sent by you to this Office.

2590
-2

PUBLIC WORKS DEPARTMENT, 21st June 1878, No. 2,590 W.

First setting of the Cement

It set under water after 14 hours, a rather slow time compared with that of the setting of the cements of Messrs White Brothers and Messrs Knight, Buxton and Sturge, both of which set after time varying between 7 and 9 hours.

2 It may be noticed that the cask sent was not in good condition (having been opened and closed, and that the cement seemed rather old or affected by dampness. I suppose, however, that you took the precaution of sending a cask representing the average of your supply.

Second, degree of fineness of the Cement

Upon being sieved through a sieve of 60 meshes to the lined inch, 25 per cent of the cement passed, whereas in White Brothers' cement only 10 per cent was the residue. The residue was consequently not ground fine enough.

Third, tensile strength

Eight bricks were immersed after 24 hours, left wet for 6 days, and when dry tried with Adler's cement testing machine, when 8 days old, giving the following results —

No 1 broke at	
" 2	525
" 3	485
" 4	575
" 5	505
" 6	545
" 7	515
" 8	505

1350
— 513, 1/2

on an area of 1 1/2 sq. ft. by 1 1/2 sq. ft. or 2 1/4 lbs. per sq. inch, whereas the cements of White Brothers and Knight, Buxton and Sturge, made of the same material, will give a result —

White Brothers' Knight, Buxton and Sturge's

503 1/2 lbs. per sq. inch
310

3 As stated above, had the sample of the cement been in a better condition, its tensile strength would have been more and probably equal to that of White Brothers' cement. It should be remembered that many cements which give in Europe high tensile strength, when they come to India, and my personal experience of 14 years is that they decline that in other countries keeps so well as White Brothers' cement. In fact, the strength of this brand is very seldom equal to the highest strength obtained by the best makers, yet it varies very little, both in quality and strength.

4 Under such circumstances I consider Messrs White Brothers to be the best makers of the cement of this important cement than other manufacturers, whom we must not forget that cement of good quality may answer well enough for Indian Engineers.

No. 215.

ORDER TOBROCK, 21st June 1878, No. 2,590 W
Communicated to the administration of officers.

(True Extract)

(Signed)

E. A. FOORD, Colonel R.E.
Secretary to Govt, P.W.D.

(True Copy)

Under Secy to Govt, P.W.D.

To District Engineers
To the Chief Engineer for Irrigation
" Chief Engineer for Public Works
" Chief Engineer and Manager, Madras Irrigation and Canal Company
" Superintendent, Madras Harbour Works
E. A. FOORD
Signed Copy

GOVT. OF INDIA

PUBLIC WORKS.

Nos 1651-55-I.

Copy of the following forwarded to the
for information.

D. B. HORN,

FORT WILLIAM,

The 8th May 1878

Asst Secy to the Govt of Bengal
in the P. W. Dept, Irriga. Branch.

De-m-off cial

From Messrs. MACKINNON MACKENZIE AND COMPANY, Metal Mart, Calcutta, to the Executive
Engineer, Cement Experiments Division,—(dated the 5th April 1878)

DEAR SIR,

We have lately brought out a shipment of Portland cement by W. Lees and
Sons, and as this make is not known in this side of India, and we are anxious to introduce it
for use on the public works in this country, we shall be glad to know if you will be disposed
to make experiments upon it and give us a report upon its qualities and strength. We should
like to compare this with the brands that are in general demand, viz. White Brothers and
Knight Pavans.

This cement comes to us highly recommended from home, and it has been used in the
Dover pier, the Tyne embankments and bridge, the Amsterdam canal works, and on the Bom-
bay side of India it is largely used. Our friends, Messrs. W. Lees and Company of that city,
tell us that it stands 300 lbs. per square inch, as against 200 lbs. of the best bazair samples.

Memorandum from P. DEJOYA, Esq., Executive Engineer, Cement Experiments Division,
to Messrs. MACKINNON MACKENZIE AND Co., Metal Mart, Calcutta,—(No. 2036, dated
Scaldah, the 8th April 1878)

Referring to their letter of the 5th instant, the undersigned will be happy to undertake
experiments upon the cement by W. Lees and Sons, provided a cask of it is sent, free of all
charges to this Office.

From P. DEJOYA, Esq., Executive Engineer, Cement Experiments Division, to Messrs.
MACKINNON MACKENZIE AND COMPANY, Metal Mart, Calcutta,—(No. 2044, dated
Scaldah, the 21st April 1878)

SIRS,

With reference to your letter dated 5th instant and in continuation of my
No. 2036 of the 8th idem, I have the honor to furnish the following results of some experi-
ments made on the cement from Messrs. W. Lees and Sons, a cask of which was sent by you
to this Office —

1st, setting of the Cement

It set under water after 14 hours, a rather slow time compared with that taken in the
setting of the cements of Messrs. White Brothers and Messrs. Knight, Pavan and Stange,
both of which set after time varying between 7 and 9 hours.

2. It was found that the cask sent was not in good condition (having been received
open), and that the cement seemed rather old or affected by dampness. I suppose, however,
that you took the precaution of sending a cask representing the average of your shipment.

2nd, degree of fineness of the Cement

Upon being sifted through a sieve of 60 meshes to the lineal inch, 25 per cent could not
pass, whereas in White Brothers' cement only 16 per cent was the residue. The cement was
consequently not ground fine enough.

3rd, tensile strength.

Light bricks were immersed after 24 hours, left wet for 6 days, and when dry tried with Adie's cement testing machine, when 8 days old, giving the following results:—

No 1 broke at	...	...	...	...	525
" 2 "	...	...	...	...	485
" 3 "	...	...	...	...	570
" 4 "	...	...	...	...	565
" 5 "	...	...	...	...	540
" 6 "	...	...	...	...	540
" 7 "	...	...	...	...	560
" 8 "	...	...	...	...	565

$$\frac{4550}{8} = 568\frac{1}{2} \text{ lbs.}$$

on an area of $1\frac{1}{2}$ " by $1\frac{1}{2}$ " or 241½ lbs per square inch, whereas the average strength of the cements of White Brothers and Knight, Bevan and Sturge, imported last year, gave the following result:—

White Brothers'	...	...	...	293½ lbs. per square inch.
Knight, Bevan and Sturge's	...	...	...	310 ditto

3. As stated above, had the sample of the cement sent been in a better condition, its tensile strength would have been more and probably equal to that of White Brothers'; but it should be mentioned that many cements which give in Europe high tensile strength deteriorate very soon after importation to India, and my personal experience of 14 years obliges me to declare that no other cement keeps so well in India as White Brothers'. In fact, though the strength of this brand is very seldom equal to the highest strength obtained by those of other makers, yet it varies very little, both in quality and strength.

4. Under such circumstances, I consider Messrs White Brothers to be more careful in the selection of their imported cement than other manufacturers, who may be under the impression that cement of second quality may answer well enough for Indian Engineers.

Circular No. 46 P. W.

GOVERNMENT OF INDIA.
PUBLIC WORKS DEPARTMENT.

CIVIL WORKS.

Irrigation

THE GOVERNMENTS OF MADRAS, AND BOMBAY, IN THE PUBLIC WORKS DEPARTMENT,
GENERAL, IRRIGATION, AND RAILWAY BRANCHES
THE GOVERNMENT OF PUNJAB, IN THE PUBLIC WORKS DEPARTMENT, GENERAL
BRANCH
THE GOVERNMENTS OF NORTH-WESTERN PROVINCES AND OUDH, AND PUNJAB, IN THE
PUBLIC WORKS DEPARTMENT, GENERAL AND IRRIGATION BRANCHES
THE CHIEF COMMISSIONERS, CENTRAL PROVINCES, BRITISH BOPMAN, MYSORE AND
COORG, AND ASSAM
THE RESIDENT AT HYDERABAD
THE AGENTS TO THE GOVERNOR GENERAL FOR CENTRAL INDIA AND RAJPOOTANA
THE SUPERINTENDENT OF PORN BLAIR, AND CHIEF COMMISSIONER, ANDAMAN AND
NICOBAR ISLANDS
THE INSPECTOR GENERAL OF MILITARY WORKS
THE DIRECTORS OF STATE RAILWAYS, GENERAL, WESTERN, AND NORTH-EASTERN
SYSTEMS
THE DIRECTOR OF STATE RAILWAY STATIONS
THE CONSULTING ENGINEERS TO THE GOVERNMENT OF INDIA FOR GUARANTEED RAIL-
WAYS, CALCUTTA, LARCHE, AND LUCKNOW
THE SUPERINTENDING ENGINEER, SIMLA IMPERIAL CIRCLE

Simla, June 10th, 1878

SIR,

In continuation of Circular No 18 P.W, dated the 2nd May 1877, the undersigned is directed to forward, for information, copy of correspondence regarding Messrs. W. Lees and Sons' Portland cement.

I have the honor to be,

SIR,

Your most obedient Servant,

Ray to Report

Captain, R. E.,
Asst Secy. to the Govt of India

To, The Secy to the Govt of Madras
P. W. Department, Railway Branch

GOVERNMENT OF INDIA.
PUBLIC WORKS DEPARTMENT.
CIVIL WORKS
Irrigation

To

Circular No 46 P. W.

Dated Simla, June 4th, 1878.

Received

Forwards, for information, copy of correspondence regarding Messrs W. Lees and Sons' Portland Cement.

Govt. G. B. Press Simla—No 173 P. W. D.—46—4—60

Circular No. 46 P. W.
GOVERNMENT OF INDIA.
PUBLIC WORKS DEPARTMENT.
CIVIL WORKS
Irrigation

THE GOVERNMENTS OF MADRAS, AND BOMBAY, IN THE PUBLIC WORKS DEPARTMENT, GENERAL, IRRIGATION, AND RAILWAY BRANCHES.
THE GOVERNMENT OF BENGAL, IN THE PUBLIC WORKS DEPARTMENT, GENERAL BRANCH
THE GOVERNMENTS OF NORTH-WESTERN PROVINCES AND OUDH, AND PUNJAB, IN THE PUBLIC WORKS DEPARTMENT, GENERAL AND IRRIGATION BRANCHES
THE CHIEF COMMISSIONERS, CENTRAL PROVINCES, BRITISH BURMAH, MYSORE AND COORG, AND ASSAM
THE RESIDENT AT HYDERABAD
THE AGENTS TO THE GOVERNOR GENERAL FOR CENTRAL INDIA AND RAJASTHAN
THE SUPERINTENDENT OF PORT BLAIR, AND CHIEF COMMISSIONER, ANDAMAN AND NICOBAR ISLANDS
THE INSPECTOR GENERAL OF MILITARY WORKS
THE DIRECTORS OF STATE RAILWAYS, CENTRAL, WESTERN, AND NORTH-EASTERN SYSTEMS
THE DIRECTOR OF STATE RAILWAY STORES
THE CONSULTING ENGINEERS TO THE GOVERNMENT OF INDIA FOR GUJARAT, RAJASTHAN, CALCUTTA, LAHORE, AND LUCKNOW
THE SUPERINTENDING ENGINEER, SIMLA IMPERIAL CIRCLE.

Simla, June 4th, 1878.

SIR,

In continuation of Circular No 18 P. W., dated the 2nd May 1877, the undersigned is directed to forward, for information, copy of correspondence regarding Messrs W. Lees and Sons' Portland cement.

I have the honor to be,

SIR,

Your most obedient Servant.

For the Secretary

Captain, R. E.,

Asst Secy to the Govt of India.

*To the Secretary to the Govt of India
Mr. Dept. General Branch*

GOVERNMENT OF INDIA
PUBLIC WORKS DEPARTMENT
CIVIL WORKS
Irrigation

To

Circular No 46 P. W.

Dated Simla, June 4th, 1878

Received

Forwarded, for information copy of correspondence regarding Messrs. W. Lees and Sons' Portland Cement

Govt. C. B. Press Simla—No 173 P. W. D—8878—000

Circular No 46 P. W.
GOVERNMENT OF INDIA
PUBLIC WORKS DEPARTMENT.
CIVIL WORKS

Irrigation

THE GOVERNMENT OF MADRAS, AND BOMBAY, IN THE PUBLIC WORKS DEPARTMENT,
GENERAL, IRRIGATION, AND RAILWAY BRANCHES.
THE GOVERNMENT OF BENGAL, IN THE PUBLIC WORKS DEPARTMENT, GENERAL
BRANCH
THE GOVERNMENT OF NORTH-WESTERN PROVINCES AND OUDH, AND PUNJAB, IN THE
PUBLIC WORKS DEPARTMENT, GENERAL AND IRRIGATION BRANCHES
THE CHIEF COMMISSIONERS, CENTRAL PROVINCES, BRITISH BURMAH, MISORH AND
COORG, AND ASSAM.
THE RESIDENT AT HYDERABAD
THE AGENTS TO THE GOVERNOR GENERAL FOR CENTRAL INDIA AND RAJPOOTANA
THE SUPERINTENDENT OF PORT BLAIR, AND CHIEF COMMISSIONER, ANDAMAN AND
NICOBAR ISLANDS
THE INSPECTOR GENERAL OF MILITARY WORKS
THE DIRECTORS OF STATE RAILWAYS, CENTRAL, WESTERN, AND NORTH-EASTERN
SYSTEMS
THE DIRECTOR OF STATE RAILWAY STORES
THE CONSULTING ENGINEERS TO THE GOVERNMENT OF INDIA FOR GUARANTEED RAIL-
WAYS, CALCUTTA, LAHORE, AND LUCKNOW
THE SUPERINTENDING ENGINEER, SIMLA DISTRICT CIRCLE

Simla, June 4th, 1878

SIR,

IN continuation of Circular No 15 P. W., dated the 2nd May 1877, the undersigned is directed to forward, for information, copy of correspondence regarding Messrs W. Lees and Sons' Portland Cement.

I have the honor to be,

SIR,

Your most obedient Servant,

Ray Shipworth

Captain, R. E.,

Asst Secy. to the Govt of India

To the Joint Secy to the Govt of Madras,
P. W. Departt., Irrigation Branch.

Q no 165 W of 29 May/77

GOVERNMENT OF INDIA
PUBLIC WORKS DEPARTMENT.
CIVIL WORKS.
In the office of the Secretary.

To

Circular No 46 P. W.

Dated SIMLA, June 4th, 1878.

Received

No 2590 W of 21 June/78
Comd

The undermentioned
officers. *Wt*
21.6.78

Mr. S. S. S.
Mr. S. S. S.
Mr. S. S. S. C. C. S.
Supt. Mr. S. S. S.
Supt. 2-7-78

Forwards, for information, copy of correspondence
concerning Messrs. W. L. and Sons
Lithland Cement

Printed by the Government of India, at the Press, W. D. - 1878

Lo 19-6-78

18913
Govt. of (1878) Madras.
PUBLIC WORKS

To

Date

Isued

Recd

Encl

G. O. 21 June 1878, No 259015.

NO. 21/5 P 13

Messrs W. L. & Son's
Portland Cement.

in from the Govt of I
forwarding correspondence
and — Comd to officers
concerned.

Subd in 1878.