U. S. DEPARTMENT OF COMMERCE NATIONAL BUREAU OF STANDARDS WASHINGTON

Letter Circular LC 835 (Supersedes LC 144)

(Revised to September 24, 1946)

	LIME:		TECHNICAL PUBLICATIONS BY MEMBERS OF THE STAFF OF THE MATIONAL BUREAU OF STANDARDS	
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GENERAL INFORMATION

Some of the publications in this list have appeared in the regular series of publications of the Bureau and others in various scientific and technical journals. Unless specifically stated, papers are not obtainable from the National Bureau of Standards.

Where the price is stated, the publication can be purchased from the Superintendent of Documents, Government Printing Office, Washington 25, D.C. The prices quoted are for delivery to addresses in the United States and its territories and possessions and in certain countries which extend the franking privilege. In the case of all other countries, one-third the cost of the publication should be added to cover postage. Remittances should be made either by coupons (obtainable from the Superintendent of Documents in sets of 20 for \$1.00 and good until used), or by check or money order payable to the "Superintendent of Documents, Government Printing Office" and sent to him with order. Letter Circulars are obtainable, without charge; from the Bureau. Publications marked "OP" are out of print, but, in general, may be consulted at technical libraries. For papers in other scientific or technical journals, the name of the journal or of the organization publishing the article is given in abbreviated form with the volume number (underscored), page, and year of publication, in the order named.

Serial letters are used to designate the several series of Bureau publications:

- S "Scientific Paper." Sl to S329 are "Reprints" from the "Bulletin of the Bureau of Standards." S330 to S572 were published as "Scientific Papers of the Bureau of Standards. This series was superseded by the "Bureau of Standards Journal of Research" in 1928.
- T "Technologic Paper." TI to T370. This series was superseded by the "Bureau of Standards Journal of Research" in 1928.
- RP "Research Paper." These are reprints of articles appearing in the "Bureau of Standards Journal of Research" and the "Journal of Research of the National Bureau of Standards," the latter being the title of this periodical since July 1934 (volume 13, number 1).
- BH "Building and Housing" publication.
- BMS "Building Materials and Structures" report.
- C "Circular."
- LC "Letter Circular."
- R "Simplified Practice Recommendation."

Circular C24 and supplements, the complete list of the Bureau's publications (1901-1944), is sold by the Superintendent of Documents for \$1.30. Announcement of new publications is made each month in the Technical News Bulletin which is obtainable by subscription at 50 cents a year, 70 cents a year to foreign countries.

PART I - SCIENTIFIC PAPERS	Series Price
Transmission and absorption of sound by some building materials. E.A. Echhardt and V.L. Chrisler. Sci.Pap.BS, 21, 37(1926)-29pp.	S526 OP
Transmission of sound through building materials. V.L. Chrisler. Sci.Pap. BS, 22, 227(1927)-11pp.	transferi National Anna State (1995)
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PART II - TECHNOLOGIC PAPERS

PART II - TECHNOLOGIC PAPERS	a .	
Manufacture of lime. W.E. Emley, Tech.Pap: BS T16(1913)-130pp. (Superseded September 28, 1927	Series	Price
by Cir.BS, C337 under the same title).	T16	ΟP
Durability of stucco and plaster construction. R.J.Wig, J.C.Pearson and W.E.Emley, Tech.Pap.	• • • • • • • • • • • • • • • • • • •	
BS, T70(1917)-74 pp.	Т70	OP
Measurement of plasticity of mortars and plasters. W.E.Emley. Tech.Pap.BS, T169 (1920)-27 pp.	, . `T169	OP
(1920)-27 pp.	1100	
Fire tests of building columns.S.H.Ingberg, H.K.Griffin, W.C.Robinson and R.E.Wilson. Tech.Pap. BS, T184(1921)-375 pp.	T184	75¢
(ament line mentang (with hibliggeraphy) :		
Cement-lime mortars (with bibliography). H.V. Johnson, Tech.Pap. BS, <u>20</u> , 241(1926)34pp.	T308	OP
PART III - RESEARCH PAPERS REPRINTED FROM JOURNAL THE NATIONAL BUREAU OF STAN		H OF
Reaction of water on calcium aluminates. Lansing S. Wells. BS J. Research, <u>1</u> , 951(1928). (Includes hydrogen-ion concentrations of cal- ciúm hydroxide solutions and electrometric titration of aluminum chloride with calcium		
hydroxide).	RP34	OP
Fire resistance of hollow load-bearing wall tile. S.H.Ingberg and H.D. Foster. ES J. Re- search, 2, 1(1929). (Includes fire tests on wall	; .	
tile covered with lime plaster.)	RP37	75¢
Transmission of sound through wall and floor	5 2	
structures. V.L. Chrisler and W.F. Snyder. BS J. Research, 2, 541 (1929).	RP48	
Durability and strength of bond between mortar and brick. L.A.Palmer and J.V.Hall,Jr. BS J. Research, <u>6</u> , 473 (1931).	RP290	OP
Heat transfer through building walls.	1	
M.S.Van Dusen and J.L.Fink. BS J. Re- search, <u>6</u> , 493 (1931).	RF291	OP
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* A limited number are available for free distribution, upon application to the Bureau. .

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PART III' RESEARCH PAPERS	Series	· · · · · · · · · · · · · · · · · · ·
Factors affecting the strength of masonry hollow units. D.E.Parsons. BS J. Research, <u>6</u> , 857 (1931).	RP310	5¢
Volume changes in brick masonry materials. L.A.Palmer.BS J. Research, <u>6</u> , 1003(1931).	RP321	OP
The system: CaO.B ₂ O ₃ . Elmer T. Carlson. BS J. Research, 9, 825(1932).	RP510	5¢
The activity coefficients of hydroxyl ion in solutions of calcium hydroxide at 30°C. E.P.Flint and Lansing S. Wells. BS J. Re- search, <u>11</u> , 163(1933).	RP584	5¢
A sedimentation method for the determination of the particle size of finely divided materi- als (such as hydrated lime). Dana L. Bishop ES J. Research <u>12</u> , 173 (1934).	RP642	OP
A study of the properties of mortars and bricks and their relation to bond. L.A. Palmer and D.A. Parsons, BS J. Research, <u>12</u> , 609 (1934).	RP683	5¢
Study of the system CaO-SiO2-H2O at 30°C and of the reaction of water on the anhydrous calcium silicates.E.P. Flint and Lansing S. Wells. BS J. Research, <u>12</u> , 751 (1934).	RP687	OP
Investigation of commercial masonry cements. J.S. Rogers and R.L. Blaine.J.Research NBS 13, 811(1934).	RP746	OP
The system lime-borîc oxide-silica. E.P. Flînt and Lansing S. Wells. J.Research NES 17, 727 (1936)	.RP941	*
Differences in limes as reflected in certain properties of masonry mortars. Lansing S. Wells, Dana L. Bishoppand David Watstein. J.Research NBS <u>17</u> , 895(1936)	RP952	5¢
Studies on a portion of the system CaO-Al ₂ O ₃ -Fe ₂ O ₃ Howard F. McMurdie. J.Re- ' search NBS <u>18</u> , 475(1937)		5¢
Hydration of magnesia in dolomitic hydrated limes and putties. Lansing S.Wells and		

limes and putties. Lansing S.Wells and Kenneth Taylor. J.Research NBS 19, 215(1937). RP1022 OP

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PART III - RESEARCH PAPERS	Series	Prîce
Studies of heat of solution of calcium and magnesium oxides and hydroxides. Kenneth Taylor and Lansing S. Wells. J. Research NBS <u>21</u> , 133(1938).	RP1121	5¢
Formation of hydrated calcium silicate at elevated temperatures and pressures. Einar P.Flint, Howard F. McMurdie, and Lansing S. Wells. J Research NBS <u>21</u> , 617(1938)	RP1147	10¢
Particle size and plasticity of lime. D.L. Bishop. J Research NBS <u>23</u> , 285(1939).	RP1232	5¢
Studies on the system lime-ferric oxide-silica. Milton D. Burdick. J Research NBS <u>25</u> ,475(1940).	RP1340	5¢
Hydrothermal and x-ray studies of the garnet- hydrogarnet series and the relationship of the series to hydration products of portland cement. E.P.Flint, Howard F. McMurdie, and Lansing S.Wells. J Research NES 26, 13(1941).	RP1355	10¢
Relationship of the garnet-hydrogarnet series to the sulfate resistance of port- land cement. E.P.Flint and Lansing S. Wells. J Research NBS 27, 171 (1941).	RP1411	10p 5¢
Composition and physical properties of aqueous extracts from portland cement clinker pastes containing added materials. George L. Kalousek, C.H.Jumper, and J.J. Tregoning. J Res MES <u>30</u> , 215(1943).	RP1530	10¢
Function of carbon dioxide in producing efflorescence on plaster and cement pro- ducts. Dana L.Eishop. J Res NBS <u>30</u> , 361 (1943)	RP1538	5¢
Study of the system CaO-Al ₂ O ₅ -H ₂ O at temperatures of 21°C and 90°C. Lansing S. Wells, W.F. Clarke and H.F.NcMurdie. J Res NBS <u>30</u> , 367(1943).	RP1539	10¢
Ten-year tests on commercial masonry ce- ments. R.L.Blaine J Res MBS <u>31</u> , 45(1943).	RP1548	5¢
Studies of portions of the quaternary system soda-lime-silica-water at 25°C. George L. Kalousek. J Res NBS <u>32</u> , 285(1944).	RP1590	10¢

PART III - RESEARCH PAPERS	Series	Price	
Analogy of hydrated calcium silicoaluminates and hexacalcium aluminate to hydrated cal- cium sulfoaluminates. E.P.Flint and Lansing S. Wells, J Res NBS 33, 471 (1944)	RP1623	· 5¢	
Comparative liquid-junction potentials of some pH buffer standards and the calibration of pH meters. George G. Fanov, Nicholas J. DeLollis, and S.F. Acree. J Res NBS Vol.34, (1945) (Includes pH measurements of calcium hydroxide solutions).	RP1632	5¢	
Extraction of alumina from clays and high- silica bauxites. E.P.Flint, W.F.Clarke, E.S. Newman, Leo Shartsis, D.L. Bishop, and Lansing S.Wells. J Res NBS <u>36</u> , 63 (1946)	RP1691	10¢	
Effect of some added materials on dical- cium silicate. Edwin S. Newman and Lansing S. Wells. J Res HBS <u>36</u> , 137(1946)	RP1696	10¢	
PART IV - CIRCULARS			
Lime: Its properties and uses. Cir. BS C30 (1920)-25pp.	C30	*	
Rules and regulations for the enforce- ment of the lime-barrel act. Cir. BS C64(1917) - 6pp.	C64	~	
Lime: Definitions and specifications. Cir. BS, ClO6(1920) - 15pp.	C106	*	
Wall plaster: Its ingredients, prepara- tion and properties. Cir. BS, C151(1924) -66 pp.	C151) 15¢	
Manufacture of lime. Cir. BS, C337 (1927) -104 pp (Superseding Technologic Paper No. 16 under same title).	C337	45¢	
SERIES OF SPECIFICATIONS FOR LIME USED IN VARIOUS CHIMICAL PROCESSES		• • •	
(These specifications, prepared under the auspices of the National Bureau of Standards, are recommended by the Inter-departmental Conference on Chemical Lime).			
Recommended specifications for quicklime the leave and hydrated lime for use in the cooking of rags for the manufacture of paper. Cir.	1991 I. (* * * * * * * * * * * * * * * * * * *		
BS, C96 (1920)-5 pp.	C96	*	
* A limited number are available for free distribution, upon			

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application to the Bureau.

	Series	Draigo
Recommended specification for limestone, quicklime, and hydrated lime for use in the manufacture of glass.Cir. BS, Cll8 (1921) -7 pp.	C118	Price *
Recommended specification for quicklime for use in causticizing. Cir. BS, Cl43 (1923) -5 pp.	C143	\$.
Recommended specification for limestone and quicklime for use in the manufacture of sulphite pulp.Cir.BS, Cl44(1923) 7 pp.	C144	OP
Recommended specification for quicklime and hydrated lime for use in the manu- facture of sand-lime brick. Cir. BS, C150 (1923) -6 pp.	C150	*
Recommended specification for ceramic whiting. Cir. BS, C152(1923) -7 pp.	C152	5¢
Recommended specification for quicklime and hydrated lime for use in the manu- facture of silica brick. Cir. ES, C153 (1923) -7pp.	C153	* * *
Recommended specification for quicklime and hydrated lime for use in the absorp- tion of carbon dioxide. Cir. BS, C189 (1924) -5 pp.	C189 ·	*
Recommended specification for quicklime and hydrated lime for use in the manu- facture of calcium arsenate. Cir. ES, C203 (1925) -4pp.	. C203	* <u>v</u>
Recommended specifications for limestone, quicklime, lime powder, and hydrated lime for use in the manufacture of sugar. Cir. BS, C207 (1925) -6pp.	C207	` X
Recommended specification for quicklime and hydrated lime for use in water puri- fication. Cir. BS, C231(1925) -4 pp.	. C231	Š¢
Recommended specification for quicklime and hydrated lime for use in soap making. Cir. BS, C372 (1929) -6pp.	C372	*

PART IV - CIRCULARS -

	a î	
Recommended specifications for quicklime for use in the distillation of ammonia from ammonia liquors obtained in coke and gas manufacture. Cir. BS, C373(1928)-4 pp.	<u>Series</u> C373	<u>Price</u> *
PART V - LETTER CIRCULARS		
Standard specifications for sieves(1940)	LC584	Free on applica-
Cement: Publication by members of the staff of the National Bureau of Standards, to- gether with a list of Federal Specifications.	LC641	tion to Bureau
Sound absorption coefficients of the more common materials (January 23, 1943)	LC714	\$ <u>1</u>
Dampness in masonry walls above grade (April 3, 1943)	LC721	11
Structural clay products, stone and masonry (June 18, 1946)	.LC824	17
PART VI - BUILDING AND HOUSING PUBLICATIONS	a a se	
Recommended minimum requirements for masonry wall construction.(Including supplement giving modification in brick masonry stresses)Bldg. CHous. BS, BH6(1925) -57 pp.	, BH6	OP
Care and repair of the house. V.B.Phelan.		
Bldg.&Hous.BS, BH15 (1931) -121 pp.	BH15	20¢
Recommended minimum requirements for small dwelling construction. Bldg&Hous. BS, BH18 (1932) -103 pp.	, · BH18	15¢
PART VII - BUILDING MATERIALS AND STRUCTURES	REPORTS	
Suitability of fiber insulating lath as a plaster base. Lansing S. Wells and D.C. Smith (Aug. 23, 1938)	BMS3	15¢
Water permeability of masonry walls. Cyrus C.Fishburn, David Watstein, and Douglas E. Parsons (Oct. 18, 1938)	BMS7	OP
Effect of heating and cooling on the permea- bility of masonry walls. Cyrus C.Fishburn and Perry H. Peterson (Jan. 11, 1940)	EMS41	OP

PART VII - BUILDING MATERIALS AND STRUCTURES	REPORTS Series	Price	
Structural properties of wood-frame wall and partition constructions with "Celotex" insulating boards. Herbert L. Whittemore		Magna da Maria da Mandrida	
and Ambrose H. Stang	BMS42	15¢	
Effects of wetting and drying on the per- meability of masonry walls. Cyrus C. Fish- burn (Sept. 18, 1940)	BMS 55	10¢	
Fire tests of wood-and metal-framed partitions S.H. Ingberg and Nolan D. Mitchell(May 12,			
1941)	BMS71	20¢	
Effect of outdoor exposure on the water permeability of masonry walls. Cyrus C. Fishburn, Douglas E. Parsons, and Perry H. Peterson. (Aug. 15, 1941)	BMS76	15¢	
Water permeability of walls built of masonry units. Cyrus C. Fishburn.			
(April 15, 1942)	BMS82	20¢	
Note: A number of additional BMS publications relating to permeabi- lity of masonry units have been omitted from this list as they deal only incidentally with lime. They may be found listed in LC824.			
PART VIII - MISCELLANEOUS PUBLICATIONS			
Paint for priming plaster surfaces. Percy H.Walker, and H.F. Hickson. Misc. Pub. BS, M137(1932)-13 pp.	M137	OP	
PART IX - SIMPLIFI'D PRACTICE RECOMMENDA	TIONS		
Metal Lath (expanded and sheet) Simpl. Prac. BS, R3(1944)	R3-44	.5¢	
PART X - FEDERAL SPECIFICATIONS			
Federal specification for quicklime;(for) structural purposes. August 19, 1930.	SS-Q=351	5¢	
Federal specification for lime; hydrated (for) structural purposes.Oct.14, 1930	SS-L-351	5¢	
Federal specification for lime, hydraulic, hydrated (Sept. 23, 1938)	SS-L-361	5¢	
Federal specification for bases, metal; (for)plaster and stucco construction.	QQ-B-101c	5¢	

PART X - FEDERAL SPECIFICATIONS

Federal specification for cements, hydrau- lic; general specifications (Methods for	Series	Price
sampling, inspecting and testing)	SS-C-158b	15¢
Federal specification for cement; masonry	SS-C-181b	5¢
Federal specification for paint; cement- water, powder, white and tints (for in terior and exterior use)	TT-P-21	5¢
Federal specification for paint; primer- sealer, (for) plaster and wall board	TT-P-56a	5¢
Federal specification for sieves, standard, testing	RR-S-366a	5¢
PART XI - OUTSIDE PUBLICATION	S	

- The articles listed below are not for distribution of sale by the Government, but may be consulted at most large libraries or in some cases may be purchased directly from the publishers.
- Burning temperature of limestone. A.V. Bleininger and W.E. Emley, Trans. Nat. Lime Mfgrs. Assn. (927 Fifteenth St. NW, Washington, D.C.) 68, (1911), and Trans. Am. Ceram. Soc. (2525 N. High St., Columbus, Ohio) 13, 618 (1911).

Tests of lime. W.E. Emley. Trans. Nat. Lime Mfgrs. Assn., 192(1911).

Heat efficiency of lime kilns. W.E. Emley. Trans. Nat. Lime Mfgrs. Assn., 95 (1912)

Tests of commercial limes. W.E. Emley, Proc. Nat. Lime Mfgrs. Assn., 77 (1913).

Use of hydrated line in portland cement. W.E. Emley and H.P. Greenwald Proc. Nat. Lime Mfgrs. Assn., 245 (1913).

Preparation of chart to show the decomposition of limestone. W.E. Emley and H.P. Greenwald. Proc. Nat. Line Mfgrs. Assn., 248(1913)

Crushing strength of lime mortar. W.E. Emley and S.E. Young. Proc. Nat. Lime Mfgrs. Assn., 254(1913).

Method of indicating the rate of set of lime mortar. W.E. Emley Trans. Am. Ceram. Soc., <u>16</u>, 117 (1914).

Effect of consistency and amount of sand on the properties of lime mortars. W.E. Emley. Trans. Am. Ceram. Soc., <u>16</u>, 151(1914).



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PART XI - OUTSIDE PUBLICATIONS

Strength of lime mortar. W.E. Emley and S.E. Young. Proc. Am. Soc. Test. Materials (1916 Race St., Philadelphia 3, Pa.) <u>14</u>, Part II, 338 (1914).

Use of lime in portland cement mortar, W.E. Emley. Trans. Nat. Lime Mfgrs. Assn., 258 (1914).

Method for the titration of calcium oxide or hydroxide in the presence of some aluminates or silicates. W.E.Emley. Trans. Am. Ceram. Soc., 17, 720 (1915).

Practical method for comparing the working qualities of hydrated lime: W.E. Emley. Trans. Nat. Lime Mfgrs. Assn., 175 (1916).

Properties of cement-lime-sand mortars. W.E. Emley. Proc. Am. Soc. Test. Materials 17, Part II, 261 (1917)

Effect of hydrated lime on the compressive strength of concrete. W.E. Emley and S.K. Kaczorowski, Bul. 2, Nat. Lime Mfgrs. Assn. (1917).

Tests of clays and limes by the Bureau of Standards plasticimeter F.A. Kirkpatrick and W.B. Orange. J. Am. Ceram. Soc., 1, 170(1918)

Compressive strength of cement-lime-mortars. F.A. Kirkpatrick and W. B. Orange. J. Am. Ceram. Soc., 2, 44 (1919)

The popping (unsoundness) of lime plaster. W.E. Emley and C.H. Bacon. J. Am. Ceram. Soc., 3, 877 (1920).

Determination of available lime in quicklime and hydrated lime. Alice I. Whitson. Chem. & Met. Eng. (330 W. 42nd.St., New York, N.Y.) 25, 740 (October 19, 1921)

Effect of hydrated lime on the strength and flow of concrete. W.E. Emley. Proc. Am. Soc. Test. Materials 22, Part I (1922), 284. Rock Products (Tradepress Publishing Co., 309 W. Jackson Blvd., Chicago, Ill.) 25, 32 (November 18, 1922).Proc. Nat. Lime Assn. 57(1922)

Panel tests of lime plaster. W.E. Emley and E.E. Berger. J. Am. Ceram. Soc. 6, 1007 (1923)

Tests of lime block. W.E. Emley. Proc. Nat. Lime Assn. 73(1923)

Process for improving the quality of masons' hydrated lime. U.S. Patent No. 1,410,087.

Consistency of lime pastes and mortars, W.E. Emley. Proc. Am. Soc. Test. Naterials 23, Part II, 440 (1923).

PART XI - OUTSIDE PUBLICATIONS

Economic value of admixtures. J.C. Pearson and Frank A. Hitchcock Proc. Am. Concrete Inst. (641 New Center Bldg., Detroit, Mich.) 20, 312 (1924).

Sands for lime, gypsum and cement plasters. H.V. Johnson. Rock Products, 28, 54 (March 21, 1925).

Hydrating lime for bleach manufacture, D.F. Richardson, W.E. Emley and J.M. Porter, Chem. & Met. Eng., 32, 936 (December, 1925).

The effect of certain materials in the finish coat of plaster. J.M. Porter. Proc. Am. Soc. Test. Materials 26, Part I, 241 (1926).

The determination of uncombined lime in portland cement. Wm. Lerch and R.H. Bogue. Ind. & Eng. Chem. (Mills Bldg., Washington, D.C.) 18, 739 (1924).

Some properties of gypsum-lime mixes. L.E. Smith, Rock Products, 29, 39 (November 27, 1926).

The analysis of hydrated lime by a thermochemical method. D.F. Richardson. Ind. & Eng. Chem. 19, 625 (1927).

Composition of commercial chemical limes, J.S. Rogers. Ind.& Eng. Chem. 19, 1157 (1927). Rock Products, <u>31</u>,60 (February 4, 1928).

Adhesion of plaster and stucco to hollow building tile. J.A. Murray and H.D. Foster. Am. Architect, (15th St. at 8th Ave., New York, N.Y.). 132, 839 (December 20, 1927); Contract Record (Hugh O..McLean Publications, Ltd., 347 Adelaide Street, Vest, Toronto 2, Canada). 42, No. 4. 80; Brick and Clay Record (Industrial Publications) 59 E. Van Buren Street, Chicago, Ill. 72, 34 (1928).

The preparation and optical properties of calcium hydroxide crystals. F.W. Ashton and Raymond Wilson. Amer. J. Sci. (502 Sterling Tower, New Haven, Conn.) 13, 209 (1927).

Fineness and available lime content of chemical quicklimes. J.S. Rogers. Ind.& Eng. Chem. 20, 1355 (1928).

Limes, structural cements and plasters. P.H.Bates and J.M. Porter. Survey of American Chemistry, Third Annual. (Chemical Catalog Co., 419 Fourth Street, New York, N.Y.) (1928)

Wet walls and efflorescence. L.A. Palmer, Am. Face Brick Assn. (205 W. Wacker Drive, Chicago, Ill.) (1928).

Mine pruse di unitern

The cause of unsoundness in portland cement. Wm. Lerch. Concrete (Cement Mill Edition)35, no. 1, 109(July 1929); and no.2, 115 (August 1929).

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Revised procedure for the determination of uncombined lime in portland cement. Wm Lerch and R.H.Pogue. Ind.&Eng. Chem.(Analytical Edition) 2, 296 (1930).

A modified test for the "soundness" of finishing lime. D.L. Bishop. Rock Products, 34, 67 (July 18, 1931).

Water penetration through brick-mortar assemblages. L.A.Palmer J.Clay Products Inst.(1427 Eye St. NV Washington, D.C.)1, 19(September 1931).

Volume changes in brick masonry materials. L.A.Palmer. J.Am.Ceram.Soc. 14, 541(August 1931)BS J. Research 6, 1003(1931) RP 321.

The rate of stiffening of mortars on a porous base. L.A.Palmer and D. A.Parsons. Rock Products, 35 No. 18, 18(Sept. 10, 1932).

Transmission of water through brick masonry. L.A.Palmer.Architectural Forum (350 Fifth Ave., New York, N.Y.) 56, 103(January 1932).

Permeability tests of 8-inch wallettes. L.A.Palmer and D.A.Parsons Proc.Am. Soc. Test. Materials, 34, Part II, 419 (1934).

Locating the causes of rain penetration of brick walls. D.E.Parsons, Building Economy(2120 Guarantee Title Bldg., Cleveland, Ohio) <u>12</u>, no. 1, 5(July 1937).

Brick laying to avoid leaks. D.E. Parsons. Am Builder (105 West Adams St., Chicago, Ill.) 59, 76 (September 1937).

The hydrated calcium silicates. E.P.Flint and Lansing S. Wells.Trans. Am.Geophysical Union(National Academy of Sciences, Washington, D.C.) part 1, 261 (Dec. 1937).

Watertightness and transverse strength of masonry walls. Douglas E. Parsons. Reprint of address delivered at annual meeting of Structural Clay Products Institute(1427 Eye St. NW Washington D.C.)(Oct 5, 1939).

Watertight masonry walls. Cyruc C. Fishburn. Operative builder and contractor.(919 H.Michigan Ave., Chicago, Ill)2, No.5 26(Sept. 1940).

The effects of certain variations in consistency and curing conditions on the compressive strengths of cement-lime mortars.G.J.Fink. Proc. ASTMI 44, 780 (1944).

Properties of highly hydrated dolomitic masonry limes and certain of Their cement lime mortars. G.J. Fink and Emil Trattner. Proc. ASTM 45, (1945).

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