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RUBBER: LIST OF NBS PUBLICATIONS

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C O N T E N T S

I. INTRODUCTION

A list of publications relating to rubber by members of the staff of the National Bureau of Standards is given in the following pages. It is intended to cover the period from the founding of the Bureau to June 30, 1947. 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 and books. Unless specifically stated, reprints of the papers are not obtainable from the National Bureau of Standards, but only from the Government Printing Office.

A complete list of NBS government publications on all subjects up to 1944 is contained in NBS Circular C24 and 3 Supplements. These lists contain brief abstracts and indexes and occupy more than 750 pages. They are for sale by the Superintendent of Documents, Government Printing Office, Washington 25, D. C., for $1.30.

A new publication, NBS Circular C460, is now in press. It contains a complete list of titles of NBS papers published in government publications up to June 30, 1947, and abstracts of papers published between July 1, 1944 and June 30, 1947.

II. GOVERNMENT PUBLICATIONS AND THEIR PURCHASE

A large number of the publications listed are government publications, available only from the Government Printing Office at the prices listed. They are not generally available directly from the National Bureau of Standards. The prices quoted are for delivery to addresses in the United States and its territories and possessions and in certain foreign 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 can be made very conveniently by coupons obtainable from the Superintendent of Documents in sets of 20 for $1.00, good until used. Checks and money orders should be made payable to "Superintendent of Documents, Government Printing Office" and sent to him with each order. The Government Printing Office does not accept stamps in payment of orders. A quantity discount of 25% is given on orders for a single publication purchased in lots of 100 copies.

Publications marked "O.P." are out of print and are consequently no longer available. They may in general be found in technical and public libraries.

III. NON-GOVERNMENTAL PUBLICATIONS

For papers and publications not printed by the Government neither the Government Printing Office nor the National Bureau of Standards is in a position to supply copies of the journals or reprints from them. Information regarding their availability and price can be obtained only from the publisher or organization sponsoring the publication. The addresses may be obtained from current issues in libraries or from lists published periodically in Chemical Abstracts, Science Abstracts, or similar journals.

IV. ANNUAL SUBSCRIPTIONS

The Journal of Research of the National Bureau of Standards, containing all Research Papers as they are issued, is published monthly. It is available on an annual subscription basis at a rate of $4.50 for the United States, Canada, Cuba, Mexico, Newfoundland, and Panama. The rate is $5.50 for other countries. Remittances should be sent to the Superintendent of Documents, Government Printing Office, Washington 25, D. C.

The Technical News Bulletin of the National Bureau of Standards is a monthly publication containing short but complete summaries of research, development, and testing in progress at the Bureau, accounts of the Bureau's national and international activities, scientific and technical announcements of new plans and programs and a list of new and revised publications by members of the staff. It is available at $1.00 a year (foreign subscriptions $1.35) from the Superintendent of Documents, Government Printing Office, Washington 25, D.C.

V. LIBRARIES

Copies of the publications listed may be consulted at many technical libraries. In addition, certain libraries in different cities in each state throughout the country have been designated as "depository libraries" by Congress, and as such receive many Government publications. An individual seeking to locate a publication should familiarize himself with the depository libraries in his vicinity.

VI. SPECIFICATIONS AND STANDARDS FOR RUBBER PRODUCTS

Specifications are used as a basis of purchase by many different organizations, both governmental and private. The 1,311-page National Directory of Commodity Specifications (Reference 178 below) prepared at the National Bureau of Standards devotes 25 pages to specifications on rubber products. Each standard or specification is listed by title, designation number, and sponsoring organization. A summary is given of the technical characteristics, scope, and special applications.

Virtually all the rubber products used by the Federal Government from truck tires to surgeons' gloves are purchased under specifications that set standards of quality, performance, and dimensions. The general methods of physical testing and chemical analysis for rubber goods are described in Specification ZZ-R-601a (Reference 179 below), which was prepared at the National Bureau of Standards.

Federal specifications for rubber goods are usually prepared by technical committees, such as those of the Federal Specifications Board, on which all interested departments of the Government are represented. Members of the NBS staff participate in drawing up these specifications but the specifications have not been listed below because they are the result of the joint effort of a number of individuals representing different organizations. Federal specifications formulated by the Federal Specifications Board are promulgated by the Bureau of Federal Supply, Treasury Department. The current list of Federal specifications giving titles, symbols, and prices entitled "Federal Specifications Index", (Section IV, Part 1 of the Federal Standard Stock Catalog), revised to January 1, 1947, is for sale by the Superintendent of Documents, Government Printing Office, Washington 25, D. C., price 35 cents. A simplified list (Price List 75) is available free from the Superintendent of Documents.

Federal specifications are prepared only for products in which two or more departments of the Government are interested. Products used by a single department are covered by specifications issued by that department. The War and the Navy Departments have a considerable number of specifications for rubber products. An index of War Department Specifications and another index of Joint Army-Navy and Federal Specifications used by the War Department are for sale by the Superintendent of Documents. The indexes indicate the different branches of the service from which the respective specifications can be obtained. No charge is made for the individual specifications. An index of Navy Department Specifications and individual Navy specifications can be obtained without charge from the Bureau of Supplies and Accounts, Navy Department, Washing 25, D. C., and from Navy Yards.

Commercial Standards and Simplified Practice Recommendations are prepared by collaboration among industry groups. Five Commercial Standards and three Simplified Practice Recommendations have been developed and published by the National Bureau of Standards.

VII. SERIES DESIGNATIONS OF NBS PUBLICATIONS

The NBS Publications have been issued in groups given different series designations. Each publication is readily identified by a letter indicating the series followed by a number indicating the particular publication. The letter designations used here are as follows:

C = Circular of the National Bureau of Standards.

CS = Commercial Standard, drawn up by representatives of industry, promulgated by the National Bureau of Standards.

LC = Letter Circular of the National Bureau of Standards. These publications are mimeographed, not printed like the others. This series is the only one for which requests should be sent directly to the National Bureau of Standards. No charge is made for these publications. The present publication is itself a Letter Circular.

M = Miscellaneous Publication of the National Buareu of Standards.

R = Simplified Practice Recommendation, drawn up by representatives of industry, with promulgation by the National Bureau of Standards.

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).

S = Scientific Paper. S1 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. T1 to T370. This series was superseded by the "Bureau of Standards Journal of Research" in 1928.

VIII. LIST OF PUBLICATIONS

1. Natural Rubber: Crude Rubber Production, Evaluation, and Testing

	Title	NBS Series	Price
(1)	"Natural Rubbers - a General Summary of Their Composition, Properties, and Uses". Norman Bekkedahl. India Rubber World 116, 57 (1947). Also in book "Compounding Ingredients for Rubber" published by India Rubber World. New York. 1947.		
(2)	"Mangabeira Latex and Rubber". Norman Bekkedahl and Waldemar Saffioti. Rubber Age (N.Y.) 60, 553 (1947). J. Research NBS 38, 427 (1947) RP1785...	RP1785	10¢
(3)	"Brazil's Program for the Production of Natural Rubber". (in French). Norman Bekkedahl. Revue Generale du Caoutchouc 23, 241 (1946).		
(4)	"Brazil's Research for Increased Rubber Production". Norman Bekkedahl. Scientific Monthly, 61, 199 (1945).		
(5)	"New Brazilian Rubber Laboratory in the Amazon Valley". Norman Bekkedahl and Fredrick L. Downs. Ind.Eng.Chem. Anal.Ed. 17, 459 (1945).		
(6)	"Rubber Research in Tropical Brazil". Norman Bekkedahl. India Rubber World 112, 451 (1945).		
(7)	"Pa-Agronomico Method for Coagulating Rubbers". Felisberto C. de Camargo and Norman Bekkedahl. India Rubber World 109, 473 (1944).		
(8)	"Some Vulcanization Tests of Guayule Rubber". David Spence and C.E.Boone. Tech.Papers BS 22, 1 (1927) T 353...	T353	5¢

2. Synthetic Rubbers: Production and Testing

	Title	NBS Series	Price
(9)	"Synthetic Rubbers: A Review of Their Compositions, Properties, and Uses". Lawrence A. Wood. NBS Circular C427 (1940). Rubber Chem. Tech. 13, 861 (1940). India Rubber World 102, No. 4, 33 (1940).....	C427	10¢
(10)	"The Examination of Materials Claimed to be Synthetic Rubber". Archibald T. McPherson. India Rubber World 101, No. 4, 43 (1940).		

3. Latex

(10a)	"Morphology of Latex Particles as Shown by Electron Micrographs". S.B. Hendricks, S.G. Wildman, and H.F. McMurdie. India Rubber World 110, 297 (1944). Rubber Chem. Tech. 18, 173 (1945)		
(11)	"Measurement of the pH of Latex by the Antimony Electrode". India Rubber World 87, 45 (1932).		
(12)	"Rubber Latex". NBS Letter Circular LC321 (1932).....	LC321	Free NBS

4. Purification of Rubber

(13)	"Behavior of Rubber Hydrocarbon in a Molecular Still". W. Harold Smith and Henry J. Wing. J. Research NBS 22, 529 (1939). RP1202. Rubber Chem. Tech. 12, 739 (1939)....	RP1202	5¢
(14)	"Ether-Insoluble or Gel Rubber Hydrocarbon, Its Solution, Crystallization, and Properties". W.H. Smith and C.P. Saylor. J. Research NBS 13, 453 (1934). RP719. Rubber Chem. Tech. 8, 214 (1935).....	RP719	O.P.
(15)	"The Preparation and Crystallization of Pure Ether-Soluble Rubber Hydrocarbon: Composition, Melting Point, and Optical Properties". W.H. Smith, C.P. Saylor, and H.J. Wing. BS J. Research 10, 479 (1933). RP544. Rubber Chem. Tech. 6, 351 (1933).....	RP544	O.P.

	Title	NBS Series	Price
(16)	"A Method for the Purification of Rubber and Properties of Purified Rubber". A.T.McPherson. BS J. Research 8, 751 (1932). RP449. Rubber Age 31, 477 (1932). Rubber Chem. Tech. 5, 523 (1932).....	RP449	5¢

5. Forms of Rubber: Crystallization and Other Transitions

(17)	"Crystallization Phenomena in Natural and Synthetic Rubbers". Lawrence A. Wood. Chapter II in book advances in Colloid Science, Vol.II, Rubber. Edited by H.Mark and G.S.Whitby. Interscience Publishers,Inc.,New York, (1946).		
(18)	"Crystallization of Unvulcanized Rubber at Different Temperatures". Lawrence A.Wood and Norman Bekkedahl. J.Applied Physics 17, 362 (1946). J. Research NBS 36, 489 (1946) RP1718. Rubber Chem.Tech.19, 1145 (1946)....	RP1718	10¢
(19)	"Effect of Pressure on the Melting of Crystalline Rubber". Lawrence A.Wood, Norman Bekkedahl,and Ralph E.Gibson. J.Research NBS 35, 375 (1945) RP1677. J.Chem.Physics 13, 475 (1945).Rubber Chem.Tech.19, 546 (1946).....	RP1677	5¢
(20)	"The Beta-Anomaly of Ruhemann and Simon in Rubber". Lawrence A.Wood. J.Chem.Phys.10, 403 (1942)...		
(21)	"Crystallization of Vulcanized Rubber". Norman Bekkedahl and Lawrence A.Wood. Ind.Eng.Chem.33, 381 (1941). Rubber Chem.Tech.14, 347 (1941).		
(22)	"Influence of the Temperature of Crystallization on the Melting of Crystalline Rubber". Norman Bekkedahl and Lawrence A.Wood. J. Chem.Phys.9, 193 (1941). Rubber Chem. Tech.14, 544 (1941).		

	Title	NBS Series	Price
(23)	"Application of the Interferometer to the Measurement of Dimensional Changes in Rubber". Lawrence A.Wood, Norman Bekkedahl,and Chauncey G. Peters. J.Research NBS 23, 571 (1939). RP1253. Rubber Chem.Tech.13, 290 (1940).....	RP1253	5¢
(24)	"Optical and Dimensional Changes Which Accompany the Freezing and Melting of Hevea Rubber". W.Harold Smith and Charles Proffer Saylor. J.Research NBS 21, 257 (1938). RP1129. Rubber Chem. Tech.12, 18 (1939).....	RP1129	10¢
(25)	"Secondary Increase of Length of Stretched, Chilled Rubber". W.Harold Smith and Charles Proffer Saylor. Science 85, 204 (1937).		
(26)	"Change of Volume of Rubber on Stretching. Effects of Time,Elongation,and Temperature". William L.Holt and Archibald T.McPherson. J.Research NBS 17, 657 (1936). RP936. Rubber Chem. Tech. 10, 412 (1937).....	RP936	5¢
(27)	"Forms of Rubber as Indicated by the Temperature Volume Relationship". Norman Bekkedahl. J.Research NBS 13, 411 (1934). RP717. Rubber Chem.Tech. 8, 5 (1935).....	RP717	5¢
(28)	"Crystalline Rubber Hydrocarbon". E.W. Washburn. Physical Rev.38, 1790 (1931). Rubber Chem.Tech.5, 119 (1932).		

6. Constants and Properties of Rubber

(29)	"Values of the Physical Constants of Rubber". Lawrence A.Wood. Proceedings of the Rubber Technology Conference, p.933 (Institution of the Rubber Industry, London), 1938. Rubber Chem. Tech.12, 130 (1939).		

	Title	NBS Series	Price
	(a) Density and Specific Gravity		
(30)	"The Measurement of Densities of Synthetic Rubbers". Lawrence A. Wood, Norman Bekkedahl, and Frank L.Roth. J.Research NBS 29, 391 (1942).RP1507. Ind.Eng.Chem.34, 1291 (1942). Rubber Chem.Tech.16, 244 (1943).....	RP1507	5¢
(31)	"Comparison Between the Observed Density of Crystalline Rubber and the Density Calculated From X-Ray Data". W.J.Smith and Nancy P.Hanna. J.Research NBS 27, 229 (1941). RP1416. Rubber Chem.Tech.15, 265 (1942).....	RP1416	5¢
	(b) Mechanical Properties		
(32)	"Torsion of a Rubber Cylinder". R.S. Rivlin. J.Applied Physics 18, 444 (1947). J.Research NBS 38,637(1947) RP1802.....	RP1802	10¢
(33)	"Stress-Temperature Relations in a Pure-Gum Vulcanizate of Natural Rubber". Lawrence A.Wood and Frank L. Roth. J.Applied Physics 15, 781 (1944). Rubber Chem.Tech.17, 367 (1944).		
(34)	"Some Relations Between Stress,Strain, and Temperature in a Pure-Gum Vulcanizate of GR-S Synthetic Rubber".Frank L.Roth and Lawrence A.Wood. J.Applied Physics 15, 749 (1944). Rubber Chem. Tech.17, 353 (1944).		
(35)	"Frictional Properties of Rubber". Frank L.Roth,Raymond L.Driscoll, and William L.Holt. J.Research NBS 28, 439 (1942). RP1463. Rubber Chem.Tech. 16, 155 (1943).....	RP1463	10¢
(36)	"Tensile Properties of Rubber Compounds at High Rates of Stretch". Frank L.Roth and William L.Holt. J. Research NBS 23, 603 (1939).RP1256. Rubber Chem.Tech.13, 348 (1940).....	RP1256	5¢

	Title	NBS Series	Price
(37)	"Vulcanization and Stress-Strain Behavior of Sol, Gel, and Total Rubber Hydrocarbon". W.Harold Smith and W.L. Holt. J.Research NBS 13, 465 (1934). RP720. Rubber Chem.Tech.8, 210 (1935).	RP720	O.P.
(38)	"Behavior of Rubber Under Repeated Stresses". W.L.Holt. Ind.Eng.Chem.23, 1471 (1931).Rubber Chem.Tech.5, 79, (1932)...		
(39)	"A Method of Measuring Frictional Coefficients of Walkway Materials". R. S.Hunter. J.Research NBS 5, 329 (1930). RP204.....	RP204	O.P.
(40)	"Tensile Properties of Soft Rubber Compounds at Temperatures Ranging from -70°C to +147°C". R.F.Tener, S.S. Kingsbury, and W.L.Holt. Tech.Papers BS 22, 367 (1927-28).T364.....	T364	10¢

(c) Thermal and Thermodynamic Properties

(41)	"Specific Heat and Increases of Entropy and Enthalpy of the Synthetic Rubber GR-S From 0° to 330°K". Robert D.Rands, Jr., W.Julian Ferguson, and John L. Prather. J.Research NBS 33, 63 (1944). RP1595.....	RP1595	5¢
(42)	"Specific Heat of the Synthetic Rubber Hycar OR From 15° to 340°K". N. Bekkedahl and R.B.Scott. J.Research NBS 29, 87 (1942). RP1487. Rubber Chem. Tech.16, 310 (1943).....	RP1487	5¢
(43)	"An Improved Wiegand Rubber Pendulum". Lawrence A.Wood and Norman Bekkedahl. Rev.Sci.Instruments 10, 51 (1939). Rubber Chem.Tech.12, 529 (1939).		
(44)	"Application of Thermodynamics to the Chemistry of Rubber". Norman Bekkedahl.Proceedings Rubber Technology Conference, p.223.Institution of the Rubber Industry, London, (1938). Rubber Chem.Tech.12, 150 (1939).		

	Title	NBS Series	Price
(45)	"Heat Capacity, Entropy, and Free Energy of Rubber Hydrocarbon". Norman Bekkedahl and Harry Matheson. J.Research NBS 15, 503 (1935). RP844. Rubber Chem.Tech.9, 264 (1936).....	RP844	5¢
(46)	"Specific Volume, Compressibility, and Volume Thermal Expansivity of Rubber-Sulphur Compounds". A.H.Scott. J. Research NBS 14, 99 (1935). RP760. Rubber Chem.Tech.8, 401 (1935).....	RP760	5¢
(47)	"Heats of Combustion of Rubber and Rubber-Sulfur Compounds". R.S.Jessup and A.D.Cummings. J.Research NBS 13, 357 (1934). RP713. Rubber Chem.Tech. 8, 44 (1935).....	RP713	5¢
(48)	"Tentative Method of Test for Comparing the Thermal Conductivity of Solid Electrical Insulating Materials". Proc.Am. Soc.Testing Materials 30, Part I,1224 (1930).		

(d) Electrical Properties

(49)	"Electrical and Mechanical Properties of the System Buna S-Gilsonite". Alan H. Selker, Arnold H.Scott, and Archibald T. McPherson. J.Research NBS 31, 141 (1943). RP1554.....	RP1554	10¢
(50)	"Dielectric Constant, Power Factor, and Conductivity of the System Rubber-Calcium Carbonate". Arnold H.Scott and Archibald T.McPherson. J.Research NBS 28, 279 (1942). RP1457. Rubber Chem. Tech. 15, 879 (1942).....	RP1457	10¢
(51)	"The Electrical Behavior of Rubber". Archibald T.McPherson. Chapter XV in book Chemistry and Technology of Rubber, edited by C.C.Davis and J.T. Blake, Reinhold Publishing Corporation, New York. (1937).		

	Title	NBS Series	Price
(52)	"Effect of Pressure on the Dielectric Constants,Power Factor and Conductivity of Rubber-Sulfur Compounds". Arnold H.Scott. J.Research NBS 15, 13 (1935). RP806.....	RP806	5¢
(53)	"Effect of Temperature and Frequency on the Dielectric Constant,Power Factor,and Conductivity of Compounds of Purified Rubber and Sulfur". A.H. Scott,A.T.McPherson,and H.L.Curtis. BS J.Research 11, 173 (1933). RP585. Rubber Chem.Tech.7, 342 (1934).....	RP585	O.P.
(54)	"Change of Electrical Properties of Rubber and Gutta-Percha During Storage Under Water". Harvey L.Curtis and Arnold H.Scott. BS J.Research 5, 539 (1930). RP213. Rubber Chem.Tech. 4, 39 (1931).....	RP213	10¢
(55)	"Density and Electrical Properties of the System,Rubber-Sulfur". H.L.Curtis, A.T.McPherson,and A.H.Scott. BS Sci. Pap. 22, 383 (1927-28). S560.....	S560	15¢
(56)	"Carbon Black in Rubber Insulating Compounds". H.L.Curtis and A.T.McPherson. Ind.Eng.Chem.22, 1259 (1930).		
(57)	"Dielectric Constant,Power Factor, and Resistivity of Rubber and Gutta-Percha". H.L.Curtis and A.T.McPherson. Tech.Papers BS 19, 669 (1924-25). T299.....	T299	20¢

(e) Optical Properties

(58)	"The Optical Properties of Rubber". Lawrence A.Wood. J.Applied Physics 12, 119 (1941). Rubber Chem. Tech. 15, 23 (1942).		
(59)	"Photoelastic Determination of Stresses Around a Circular Inclusion in Rubber". W.E.Thibodeau and L.A.Wood. J.Research NBS 20, 393 (1938). RP1083.....	RP1083	5¢
(60)	"Infrared Absorption Spectra of Plant and Animal Tissue and Various Other Substances". R.Stair and W.W.Coblentz. J.Research NBS 15,295(1935).RP830.....	RP830	5¢

	Title	NBS Series	Price
(61)	"Refractive Index of Rubber". A.T. McPherson and A.D.Cummings. J.Research NBS 14, 553 (1935). RP786. Rubber Chem.Tech.8, 421 (1935).....	RP786	5¢
(62)	"Photoelastic Properties of Soft Vulcanized Rubber". W.E.Thibodeau and Thibodeau and A.T.McPherson. J.Research NBS 13, 887 (1934). RP751. Rubber Chem.Tech. 8, 183 (1935).....	RP751	5¢

(f) X-ray Diffraction

(63)	"X-ray Diffraction Patterns of Hevea, Manihot, and Other Rubbers". George L.Clark, Siegfried T.Gross, and W. Harold Smith. J.Research NBS 23, 1 (1939). RP1218. Rubber Chem. Tech. 13, 42 (1940).....	RP1218	5¢
(64)	"X-ray Diffraction Patterns of Crystalline Sol Rubber Prepared from Ethereal Solution". G.L.Clark, S.T. Gross, and W.H.Smith. J.Research NBS 22, 105 (1939). RP1170. Rubber Chem. Tech. 12, 482 (1939).....	RP1170	5¢
(65)	"X-ray Diffraction Patterns of Sol,Gel, and Total Rubber When Stretched and When Crystallized by Freezing and From Solutions". G.L.Clark,Enno Wolthuis, and W.H.Smith. J.Research NBS 19,479 (1937). RP1039. Rubber Age.(N.Y.) 42 35 (1937). Rubber Chem.Tech.11, 32 (1938).....	RP1039	10¢

(g) Permeability to Gases

(66)	"Permeability of Elastic Polymers to Hydrogen". Theron P.Sager. J.Research NBS 25, 309 (1940). RP1327.....	RP1327	5¢
(67)	"Permeability of Neoprene to Gases". Theron P.Sager and Max Sucher. J.Research NBS 22, 71 (1939). RP1166. Rubber Chem.Tech.12,875 (1939).....	RP1166	5¢

	Title	NBS Series	Price
(68)	"Permeability of Synthetic Film-Forming Materials to Hydrogen". T. P. Sager. J.Research NBS 13, 879 (1934). RP750.....	RP750	O.P.
(69)	"Permeability of Rubber to Gases". J.D.Edwards and S.F.Pickering. Sci. Papers BS 16, 327 (1920). S387.....	S387	O.P.

(h) Properties of Rubber in Solution

(70) "Consistency Measurements of Rubber-Benzene Solutions"..(in German). W. Herschel and R.Bulkley. Kolloid-Zeits. 39, 291 (1926).

(71) "Measurement of Consistency as Applied to Rubber-Benzene Solutions". W.H. Herschel and R.Bulkley. Proc. A.S.T.M. 26, Part II, 621 (1926).

(72) "Consistency of Rubber-Benzene Solutions". Winslow H.Herschel. Ind.Eng.Chem.16, 927. (1924).

7. Chemical Reactions of Rubber

(a) Vulcanization

(73) "Vulcanization of GR-S by the Peachey Process". Archibald T.McPherson. Rubber Age 59, 323 (1946). Rubber Chem.Tech. 20, 182 (1947).

(74) "Heats of Reaction of the System:Rubber-Sulfur". A.T.McPherson and N.Bekkedahl. J.Research NBS 14, 601 (1935). RP791. Ind.Eng.Chem. 27, 597 (1935). Rubber Chem.Tech. 8, 456 (1935)..... RP791 5¢

(75) "The Alternating Behavior of Fatty Acids in Rubber". W.H.Smith and C.E.Boone. Ind.Eng.Chem.18, 398 (1926).

Title	NBS Series	Price

(b) Aging

(76) "Accelerated Aging Tests for Rubber, Paper, and Weighted Silk". W.E.Emley. International Association for Testing Materials. (28 Victoria Street, London SW1, England. London Congress, 1937, p.509.

(77) "Effect of Antioxidants on the Natural and the Accelerated Aging of Rubber". R.F.Tener and W.L.Holt. J. Research NBS 14, 667 (1935).RP795..... RP795 5¢

(78) "Aging of Soft Rubber Goods". R.F. Tener, W.H.Smith, and W.L.Holt. Tech. Papers BS 21, 353 (1926-27).T342..... T342 O.P.

(79) "The Aging Properties of Rubber Bands in Storage". C.E.Boone. India Rubber World 76, 317 (1927).

(c) Effects of Elevated Temperatures on Rubber

(80) "Influence of Temperature on the Evolution of Hydrogen Sulfide from Vulcanized Rubber". A.D.Cummings. BS J. Research 9, 163 (1932). RP464. Rubber Chem.Tech.6, 46 (1933)..... RP464 5¢

(81) "Evolution of Hydrogen Sulfide from Vulcanized Rubber". Edward Wolesensky. BS J.Research 4, 501 (1930). RP162. Rubber Chem.Tech.3, 386 (1930)..... RP162 O.P.

8. Constants and Properties of Monomers and Other Materials Related to Rubber

(82) "Tables of Selected Values of Properties of Hydrocarbons". American Petroleum Institute Research Project 44 at the National Bureau of Standards.

	Title	NBS Series	Price
(83)	"Some Physical Properties of Butadiene and Styrene". Lawrence A.Wood and Catherine F.Higgins. NBS Letter Circular LC710 (1942). India Rubber World 107, 475 (1943). Petroleum Refiner 22, 89 (1943).....	LC710	O.P.
	(a) Analytical Methods		
(84)	"Ionization and Dissociation of cis- and trans-2-Butene by Electron Impact". Vernon H.Dibeler. J.Research NBS 38, 329 (1947) RP1775.....	RP1775	10¢
(85)	"Determination of the Purity of Hydrocarbons by Measurement of Freezing Points". Augustus R.Glasgow,Jr., Anton J.Streiff,and Frederick D. Rossini. J.Research NBS 35, 355 (1945). RP1676.....	RP1676	10¢
(86)	"Mass Spectrometric Analyses of Hydrocarbon and Gas Mixtures". A.Keith Brewer and Vernon H.Dibeler. J.Research NBS,35, 125 (1945). RP1664...	RP1664	10¢
	(b) Densities and Other Simple Physical Properties		
(87)	"Volume Correction Factors for C_4 Hydrocarbon Mixtures". C.S.Cragoe. NBS Letter Circular LC 757 (1944)...	LC757	Free NBS
(88)	"Liquid Densities of Eleven Hydrocarbons Found in Commercial C_4 Mixtures". C.S.Cragoe. NBS Letter Circular LC 736 (1943).....	LC736	Free NBS
(89)	"Some Physical Properties of Isoprene". Norman Bekkedahl,Lawrence A.Wood,and Mieczyslaw Wojciechowski. J.Research NBS 17, 883 (1936). RP951. Rubber Chem.Tech. 10, 451 (1937). India-Rubber J. 93, 648 (1937).....	RP951	5¢

	Title	NBS Series	Price
	(c) Thermodynamic Properties		
(90)	"Heats of Combustion and Solution of Liquid Styrene and Solid Polystyrene and the Heat of Polymerization of Styrene". D.E.Roberts, W.W.Walton, and R.S.Jessup. J.Polymer Science 2, (1947). J.Research NBS 38, (1947) RP1801.....	RP1801	
(91)	"Normal Coordinate Analysis of the Vibrational Frequencies of Ethylene, Propylene, cis-2-Butene, trans-2-Butene, and Isobutene". John E. Kilpatrick and Kenneth S.Pitzer. J. Research NBS 38, 191 (1947)RP1768...	RP1768	15¢
(92)	"Vibrational Frequencies of Semi-Rigid Molecules: A General Method and Values for Ethylbenzene". William J.Taylor and Kenneth S. Pitzer. J.Research NBS 38, 1 (1947) RP1758.....	RP1758	15¢
(93)	"Equilibrium Constants of Some Reactions Involved in the Production of 1,3-Butadiene". Ferdinand G. Brickwedde,Morris Moskow, and John G.Aston. J.Research NBS 37, 263 (1946) RP1747.....	RP1747	10¢
(94)	"Heat Content, Free-Energy Function, Entropy, and Heat Capacity of Ethylene and the Four Butenes to 1500°K". J.E.Kilpatrick and K.S. Pitzer. J.Research NBS 37, 163 (1946). RP1738.....	RP1738	10¢
(95)	"Heats,Equilibrium Constants, and Free Energies of Formation of the Alkylbenzenes". W.J.Taylor, D.D. Wagman, Mary G.Williams, K.S.Pitzer, and F.D.Rossini. J.Research NBS 37, 95 (1946). RP1732.....	RP1732	15¢
(96)	"Heats,Equilibrium Constants,and Free Energies of Formation of the Monoolefin Hydrocarbons". J.E.Kilpatrick, E.J.Prosen, K.S.Pitzer, and F.D. Rossini. J.Research NBS 36, 559 (1946). RP1722.....	RP1722	10¢

	Title	NBS Series	Price
(97)	"Heats of Combustion and Formation at 25°C of the Alkylbenzenes Through $C_{10}H_{14}$ and of the Higher Normal Monoalkylbenzenes". E.J.Prosen, W.H. Johnson, and F.D.Rossini. J.Research NBS 36, 455 (1946). RP1714.....	RP1714	5¢
(98)	"Heats of Formation, Hydrogenation, and Combustion of the Monoolefin Hydrocarbons Through the Hexenes, and of the Higher 1-Alkenes in the Gaseous State at 25°C". E.J.Prosen and F.D.Rossini. J.Research NBS 36, 269 (1946).RP1702..	RP1702	5¢
(99)	"Thermodynamic Properties of Gaseous 1,3-Butadiene and the Normal Butenes above 25°C". John G.Aston, George Szasz, Harold W.Wooley, and Ferdinand G.Brickwedde.J.Chem. Physics, 14, 67 (1946).		
(100)	"Thermodynamic Properties of Ethylbenzene Vapor from 300° to 1500°K". F.G.Brickwedde, M.Moskow, and R.B. Scott. J.Chem.Physics 13, 547 (1945).		
(101)	"Thermodynamic Properties of Solid and Liquid Ethylbenzene from 0° to 300°K". Russell B.Scott and Ferdinand G. Brickwedde. J.Research NBS 35,501 (1945). RP1684.....	RP1684	5¢
(102)	"Heats, Equilibrium Constants, and Free Energies of Formation of the Acetylene Hydrocarbons Through the Pentynes, to 1500°K". D.D.Wagman, J.E. Kilpatrick, K.S.Pitzer, and F.D. Rossini. J.Research NBS 35, 467 (1945). RP1682.....	RP1682	10¢
(103)	"Thermodynamic Properties of 1.3-Butadiene in the Solid, Liquid, and Vapor States". Russell B.Scott, Cyril H.Meyers, Robert D.Rands, Jr., Ferdinand G.Brickwedde, and Norman Bekkedahl. J.Research NBS 35, 39 (1945). RP1661.....	RP1661	10¢

	Title	NBS Series	Price
(104)	"Heats and Free Energies of Formation of the Paraffin Hydrocarbons in the Gaseous State to 1500°K". E.J.Prosen, K.S.Pitzer, and F.D.Rossini. J.Research NBS 34, 403 (1945).RP1650.....	RP1650	O.P.
(105)	"Heats of Combustion and Formation of the Paraffin Hydrocarbons at 25°C". E.J.Prosen and F.D.Rossini. J.Research NBS 34, 263 (1945).RP1642.....	RP1642	5¢
(106)	"Specific Heats of Gaseous 1,3-Butadiene,Isobutene,Styrene,and Ethylbenzene". Russell B.Scott and Jane W.Mellors. J.Research NBS 34, 243 (1945). RP1640.....	RP1640	5¢
(107)	"Heats of Combustion of Benzene,Toluene,Ethyl-Benzene,o-Xylene,m-Xylene, p-Xylene, n-Propylbenzene, and Styrene". Edward J.Prosen, Roger Gilmont, and Frederick D.Rossini. J. Research NBS 34, 65 (1945).RP1629....	RP1629	5¢
(108)	"Heats of Formation and Combustion of 1,3-Butadiene and Styrene". Edward J. Prosen and Frederick D.Rossini. J. Research NBS 34, 59 (1945).RP1628....	RP1628	5¢
(109)	"Thermodynamic Properties of cis-2-Butene from 15° to 1,500°K". Russell B.Scott, W.Julian Ferguson, and Ferdinand G.Brickwedde. J.Research NBS 33, 1 (1944).RP1592.....	RP1592	10¢
(110)	"Heat of Combustion of Isoprene". Ralph S.Jessup. J.Research NBS 20, 589 (1938). RP1093.....	RP1093	5¢
(111)	"Entropy of Isoprene from Heat-Capacity Measurements". Norman Bekkedahl and Lawrence A.Wood. J.Research NBS 19, 551 (1937). RP1044.....	RP1044	5¢

Title	NBS Series	Price

9. Chemical Analysis of Rubber

(112) "Errors in Gas Analysis Arising from Loss of Gas by Solution in Rubber Connections and Stopcock Lubricant". J.R.Branham. BS.J.Research 12, 353 (1934). RP661..... RP661 O.P.

(113) "Decomposition of Barium Sulfate by Solutions of Sodium Carbonate". E. Wolesensky. Ind.Eng.Chem.Anal.Ed. 1, 29 (1929).

(114) "Determination of Sulfur in Rubber by the Perchloric Acid Method". E. Wolesensky. Ind.Eng.Chem.20, 1234 (1928). Rubber Chem.Tech.2, 45(1929).

(115) "Determination of Rubber and Inorganic Materials in Soft Rubber Goods". R.T.Mease and N.P.Hanna. Ind.Eng.Chem. 17, 161 (1925).

(116) "Determination of Total Sulfur in Rubber Goods". S.Collier,M.Levin, and R.T.Mease. Ind.Eng.Chem.15, 953 (1923).

(117) "An Improved Method for the Determination of Total Sulfur in Rubber Goods". M.Levin and S.Collier. Rubber Age and Tire News 9, 47 (1921).

(118) "Determination of Antimony in Rubber Goods". S.Collier, M.Levin, and J.A. Scherrer. Rubber Age and Tire News 8, 104 (1920). India-Rubber J. 64, 580 (1921).

(119) "Detection of Glue in Rubber Goods". S.W.Epstein and W.E.Lange. India Rubber World 61, 216 (1920). Rubber Age and Tire News 6, 109(1919).

(120) "Determination of Cellulose in Rubber Goods". S.W.Epstein and R.L.Moore. Tech.Papers BS 13, (1920). T154. Rubber Age and Tire News 6, 289(1920)... T154 O.P.

	Title	NBS Series	Price
(121)	"Extraction of Rubber Goods". S.W. Epstein and B.L.Gonyo. Tech.Papers BS 13,(1919-20). T162. Rubber Age and Tire News 6, 445 (1920).....	T162	O.P.
(122)	"Determination of Free Carbon in Rubber Goods". A.H.Smith and S.W. Epstein. Tech.Papers BS 12, (1919). T136. J.Ind.Eng.Chem.11, 33(1919)...	T136	O.P.
(123)	"Direct Determination of India Rubber by the Nitrosite Method". J.B.Tuttle and L.Yurow. Tech.Papers BS 13, (1919-20). T145.....	T145	O.P.
(124)	"Determination of Barium Carbonate and Barium Sulphate in Vulcanized Rubber Goods". J.B.Tuttle. Tech. Papers BS 7, (1916-17). T64. J.Ind. Eng.Chem. 8, 324 (1916).....	T64	O.P.
(125)	"A Study of Some Recent Methods for the Determination of Total Sulfur in Rubber". J.B.Tuttle and A.Isaacs. Tech.Papers BS 5 (1914-15). J. Ind. Eng.Chem. 7, 658 (1915).....	T45	O.P.
(126)	"Combustion Method for the Direct Determination of Rubber". L.G.Wesson. Tech.Papers BS 4 (1913-14). T35.....	T35	O.P.
(127)	"The Sampling of Rubber Goods". J.B. Tuttle. J.Ind.Eng.Chem.5,618(1913).		
(128)	"An Improved Extraction Apparatus". T.B.Ford. J.Am.Chem.Soc. 34, 552 (1912).		
(129)	"The Determination of Total Sulfur in India Rubber". C.E.Waters and J.B.Tuttle. Sci.Papers BS 8, 445 (1912). S174. J.Ind.Eng.Chem. 3, 734 (1911).....	S174	O.P.

10. Physical Testing of Rubber

(130)	"Laboratory Testing of Rubber for Cut Growth". William L.Holt and Ellis O.Knox. Rubber Age (N.Y.)60, 689 (1947).		

	Title	NBS Series	Price
(131)	"Factors Affecting Results Obtained with the Mooney Viscometer". Rolla H.Taylor. India Rubber World 112,582 (1945). NBS Circular C451 (1945). Reprinted in Rubber Chem.Tech.19, 808 (1946).....	C451	5¢
(132)	"Use of the Shore Durometer for Measuring the Hardness of Synthetic and Natural Rubbers". Rolla H.Taylor. A.S.T.M.Bulletin 123, 25 (1943). Rubber Chem.Tech. 17, 512 (1944).		
(133)	"Toggle Clamp for Rubber Tensile Specimens". William L.Holt and Archibald T.McPherson. J.Research NBS 22, 543 (1939).RP1204.....	RP1204	10¢
(134)	"Physical Testing of Rubber". (in French). Archibald T.McPherson. Vol. 1, Book 3, Chapter 2 of Encyclopedia of Rubber Technology (Encyclopedie Technologique du Caoutchouc), edited by A. Bloc and G. Genin.Revue Generale du Caoutchouc,Paris.(1938).		
(135)	"Compression Cutting Test for Rubber". W.L.Holt. BS J.Research 12, 489 (1934). RP674.....	RP674	5¢
(136)	"A Water Bath Having Submerged Individual Sample-Containers for the Accelerated Aging of Rubber in Air". W.L. Holt and A.T.McPherson. Rubber Age 36, No.3, 121 (Dec.1934). Rubber Chem. Tech. 8, 302 (1935)		
(137)	"Screw Micrometer Gauges for Rubber Specimens". W.L.Holt. BS J.Research 10, 575 (1933). RP549.....	RP549	5¢
(138)	"Measuring Microscope for Rubber Specimens". R.E.Lofton. Ind.Eng.Chem. Anal.Ed. 4,439 (1932). Rubber Chem. Tech. 6, 151 (1933)..		
(139)	"A Simple Abrasion Test Machine for Rubber". P.A.Sigler and W.L.Holt. India Rubber World 82,63 (1930).		

	Title	NBS Series	Price
(140)	"Outline of Tentative Standard Laboratory Procedure for the Preparation and Physical Testing of Rubber Samples". Physical Testing Committee, Rubber Division, Am. Chem.Soc., and F.E. Rupert. Rubber Age (New York) 26, 429 (1930). Rubber Chem.Tech. 3, 179 (1930).		
(141)	"Importance of Temperature and Humidity Control in Rubber Testing: I. Stress-Strain and Tensile Properties". Physical Testing Committee, Rubber Division, Am.Chem.Soc., and F.E. Rupert. Ind.Eng.Chem.20, 1245 (1928); II. Resistance to Abrasion. Ind.Eng. Chem.Anal.Ed. 1, 174 (1929). Rubber Chem.Tech. 1,515 (1928) and 2,680 (1929).		
(142)	"Importance of Temperature and Humidity Control in Rubber Testing". Physical Testing Committee,Rubber Division, Am.Chem.Soc., and F.E.Rupert. Rubber Age 22, 245 (1927).		
(143)	"The Testing of Rubber Goods". BS Circular C38, 5th Edition (1927).....	C38	O.P.
(144)	"Effect of Heat Generated During Stressing Upon the Tensile Properties of Rubber". C.E.Boone and J.R.Newman. Ind.Eng.Chem.18, 539 (1926).		
(145)	"The Influence of Temperature on the Tensile Properties of Rubber Compounds". P.L.Wormeley. Presented at the Fourth International Rubber Congress,London,June 1914. Published in J.Torrey and A.S.Manders: The Rubber Industry, p.246. International Rubber and Allied Trades Exhibition,London, 1914.		
(146)	"Notes on Tension Tests of Rubber". P.L.Wormeley. Presented at Rubber Congress,New York,September 1912. Published in J.Torrey and A.S.Manders: The Rubber Industry,p.416. International Rubber and Allied Trades Exhibition, London, 1914.		

	Title	NBS Series	Price
(147)	"Some Apparatus for Tension Tests of Rubber". P.L.Wormeley. International Association for Testing Materials, Proceedings 6th Congress, New York, 1912. McGraw Hill Book Co.,New York.		

11. Rubber Products

(a) Tires

(148)	"Measuring the Rate of Wear of Tire Treads". Frank L.Roth and William L. Holt. J.Research NBS 32, 61 (1944). RP1574.....	RP1574	5¢
(149)	"Paints and Other Protective Coatings for Tires".Archibald T.McPherson and Eugene F.Hickson. NBS Letter Circular LC709 (1942).....	LC709	Free NBS
(150)	"Measurement of the Tread Movement of Pneumatic Tires and a Discussion of the Probable Relation to Tread Wear". W.L.Holt and C.M.Cook. BS J.Research 1, 19 (1928). RP2.....	RP2	O.P.
(151)	"Use and Care of Automobile Tires". BS Circular C341 (1927).....	C341	O.P.
(152)	"Puncture Sealing Compounds for Pneumatic Tires". BS Circular C320 (1926)	C320	O.P.
(153)	"Endurance Tests of Tires". W.L.Holt and P.L.Wormeley. Tech.Papers BS 20, 545 (1926). T318.....	T318	10¢
(154)	"Wearing Quality of Tire Treads as Influenced by Reclaimed Rubber". W.L. Holt and P.L.Wormeley. Tech.Papers BS 19, 579 (1925). T294.....	T294	5¢
(155)	"Effect of Tire Resistance on Fuel Consumption". W.L.Holt and P.L. Wormeley. Tech.Papers BS 19, 213 (1925). T283.....	T283	O.P.
(156)	"Dynamometer Tests of Automobile Tires". W.L.Holt and P.L.Wormeley. Tech.Papers BS 17, 559 (1923).T240...	T240	10¢

	Title	NBS Series	Price
(157)	"Power Losses in Automobile Tires". W.L.Holt and P.L.Wormeley. Tech. Papers BS 16, 451 (1922) T213.....	T213	5¢

(b) Reclaimed Rubber

(158)	"Reclaimed Rubber". A.T.McPherson. BS Circular C393 (1931).....	C393	O.P.

(c) Coated Fabrics and Thin Films

(159)	"The Preparation of Thin Films". T.P. Sager. Ind.Eng.Chem.Anal.Ed. 9, 156 (1937). Rubber Chem.Tech. 10, 639 (1937).		
(160)	"Rubber Substitutes as Coatings for Balloon Fabrics". Theron P.Sager. J. of the Aeron.Sci. 3, 63 (1935).		
(161)	"Effect of Solar Radiation Upon Balloons". J.D.Edwards and M.B.Long. Tech.Papers BS 12, (1919).T128.....	T128	O.P.
(162)	"Determination of Permeability of Balloon Fabrics". J.D.Edwards. Tech.Papers BS 11, (1918). T113.....	T113	O.P.

(d) Brake Lining

(163)	"Effect of Roughness of Cast-Iron Brake Drums in Wear Tests of Brake Linings". Rolla H.Taylor and William L.Holt. J.Research NBS 27, 395 (1941). RP1427.....	RP1427	5¢
(164)	"Small Inertia-Type Machine for Testing Brake Lining". Rolla H.Taylor and William L.Holt. J.Research NBS 24,531 (1940). RP1297.....	RP1297.	5¢
(165)	"Automotive Brake Lining". NBS Letter Circular LC556 (1939).....	LC556	Free NBS
(166)	"Brake Performance Studies". W.S.James. J.Soc.Automotive Engrs. 14, 236(1924).		

Title	NBS Series	Price
(e) Other Rubber Products		
(167) "Jar Rings for Use in Home Canning: Their Testing and a Proposed Specification". Rolla H.Taylor, Helen G. Wheeler, and Frances Benedict. NBS Miscellaneous Publication M181(1945).	M181	10¢
(168) "Denture Rubber: Composition,Properties, and a Specification". W.T. Sweeney and H.J.Caul. J.Am.Dental Assoc. 27, 1446 (1940).		
(169) "Test of Floor Coverings for Post-Office Work-Rooms". Warren E.Emley and Carl E.Hofer. J.Research NBS 19, 567 (1937). RP1046.....	RP1046	O.P.
(170) "Preliminary Tests of Some of the Newer Denture Materials". R.Barber. J.Am.Dental Assoc. 21, 1969 (1934).		
(171) "Rubber Cements". NBS Letter Circular LC411 (1934).....	LC411	Free NBS
(172) "Rubber Beaker Rings for Accelerating Evaporation on Steam Bath". J.A. Scherrer. Ind.Eng.Chem.Anal.Ed.5, 22 (1933).		
(173) "Some Properties of Sponge Rubber". BS Circular C377. (1929).....	C377	O.P.
(174) "Rubber Floor Tile". BS Letter Circular LC270 (1929).....	LC270	O.P.
(175) "Rubber Binders for Foundry Cores". BS Letter Circular LC252 (1928).....	LC252	O.P.
(176) "Selection and Care of Garden Hose". BS Circular C327 (1926).....	C327	O.P.
(177) "Tests of Flexible Gas Tubing". R.S. McBride and W.M.Berry. Tech.Papers BS 12 (1919). T133.....	T133	O.P.

Title	NBS Series	Price

12. Specifications and Standards for Rubber Products

(a) Directory of Specifications

(178) "National Directory of Commodity-Specifications", prepared by Paul A. Cooley and Ann E. Rapuzzi under the direction of A.S. McAllister. NBS Miscellaneous Publication M178 (1945)..... M178 $4.00
Supplement $2.25

(b) Federal Specifications

(179) "Federal Specifications for Rubber Goods: General Specifications (Methods of Physical Tests and Chemical Analyses)". Federal Standard Stock Catalog Item ZZ-R-601a June 25, 1940..... ZZ-R-601a 15¢

(c) Commercial Standards

(180) "Tire Repairs - Vulcanized (Passenger, Truck, and Bus Tires)". NBS Com.Std. CS110 (1943)..... CS110-43 5¢

(181) "Treading Automobile and Truck Tires". NBS Com.Std. CS108 (1943). CS108-43 10¢

(182) "Surgeons' Latex Gloves". NBS Com. Std. CS41 (1932)..... CS41-32 Free NBS

(183) "Surgeons' Rubber Gloves". NBS Com. Std. CS40 (1932)..... CS40-32 Free NBS

(184) "Hospital Rubber Sheeting". NBS Com. Std. CS38 (1932)..... CS38-32 5¢

(d) Simplified Practice Recommendations

(185) "Industrial Truck and Trailer Solid Tires". (1934)..... R103-34 5¢

(186) "Dental Rubber". (1932)..... R138-32 5¢

(187) "Automobile Brake Lining". (1927)... R66 5¢

Title	NBS Series	Price
13. General Information on Rubber		
(188) "Rubber: List of Publications by Members of the Staff of the National Bureau of Standards". NBS Letter Circular LC869 (1947).....	LC869	Free NBS
(189) "Rubber Research and Technology at The National Bureau of Standards". Lawrence A. Wood. India Rubber World 115, 789 (1947). NBS Miscellaneous Publication M185 (1947)....	M185	10¢
(190) "Natural Rubber and Synthetic Rubber" (Borracha Natural E Borracha Sintetica) in English and Portuguese. Norman Bekkedahl. Talk presented 11-5-43 at the Instituto Agronomico do Norte. Published as a bulletin by the Instituto Agronomico do Norte, Belem, Para, Brazil (1943). Also published in Spanish as part of Revista Faculdad Nacional de Agronomia (Medellin, Colombia), 6 No.22, 53 (1946).....		
(191) "A Central Organization for Fundamental Research on Rubber". Archibald T. McPherson. India Rubber World 105, 255 (1941). Rubber Chem. Tech. 15, 221 (1942).....		
(192) "Guide to the Literature on Rubber". NBS Letter Circular LC626 (1941)...	LC626	Free NBS