NATIONAL BUREAU OF STANDARDS REPORT

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REPORT ON INTERNATIONAL TRAVEL TO LATIN AMERICA
TO
PARTICIPATE IN THE DEVELOPMENT OF
PAN AMERICAN STANDARDS FOR TEXTILES

November 2-18, 1962

By
Dr. Herbert F. Schiefer
Consultant on Textiles
Polymers Division

U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS

THE NATIONAL BUREAU OF STANDARDS

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The functions of the National Bureau of Standards are set forth in the Act of Congress, March 3, 1901, as amended by Congress in Public Law 619, 1950. These include the development and maintenance of the national standards of measurement and the provision of means and methods for making measurements consistent with these standards; the determination of physical constants and properties of materials; the development of methods and instruments for testing materials, devices, and structures; advisory services to government agencies on scientific and technical problems; invention and development of devices to serve special needs of the Government; and the development of standard practices, codes, and specifications. The work includes basic and applied research, development, engineering, instrumentation, testing, evaluation, calibration services, and various consultation and information services. Research projects are also performed for other government agencies when the work relates to and supplements the basic program of the Bureau or when the Bureau's unique competence is required. The scope of activities is suggested by the listing of divisions and sections on the inside of the back cover.

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The results of the Bureau's research are published either in the Bureau's own series of publications or in the journals of professional and scientific societies. The Bureau itself publishes three periodicals available from the Government Printing Office: The Journal of Research, published in four separate sections, presents complete scientific and technical papers; the Technical News Bulletin presents summary and preliminary reports on work in progress; and Basic Radio Propagation Predictions provides data for determining the best frequencies to use for radio communications throughout the world. There are also five series of nonperiodical publications: Monographs, Applied Mathematics Series, Handbooks, Miscellaneous Publications, and Technical Notes.

A complete listing of the Bureau's publications can be found in National Bureau of Standards Circular 460, Publications of the National Bureau of Standards, 1901 to June 1947 ($1.25), and the Supplement to National Bureau of Standards Circular 460, July 1947 to June 1957 ($1.50), and Miscellaneous Publication 240, July 1957 to June 1960 (Includes Titles of Papers Published in Outside Journals 1950 to 1959) ($2.25); available from the Superintendent of Documents, Government Printing Office, Washington 25, D. C.

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1. ABSTRACT

This report contains observations concerning (1) participation of Central American countries in Pan American Standards with special reference to the work of COPANT Technical Committee 6 for Textile Standards, (2) actions of the Council of COPANT especially with references to By-Laws concerning the functioning of COPANT Technical Committees, and (3) actions and future plans adopted in the general sessions of COPANT Technical Committee 6 for Textile Standards, as reported by the ASA Delegation of the United States. The places and approximate dates for two meetings in 1963 and two meetings in 1964 were agreed upon. It was agreed to plan a seminar in connection with a Spring meeting in 1963. Approximately 50 standards have been submitted for consideration at future meetings and additional proposals are anticipated from the participating countries for consideration at these meetings.

2. SPONSOR

This activity was sponsored by the Office of Technical Services (OTS) of the United States Department of Commerce in cooperation with the American Standards Association (ASA) which represents the United States interests of both industry and governmental agencies in international standards organizations. The Pan American Standards program of ASA for development of standards for textiles is under the direction of Committee L-23 of ASA. The work of Committee L-23 is guided in technical matters by Committee D-13 on Textiles of the American Society for Testing and Materials (ASTM), the Executive Committee on Research of the American Association of Textile Chemists and Colorists (AATCC), and the National Bureau of Standards (NBS) which has been assigned the responsibility for the Federal Standard Textile Test Methods of the General Services Administration (GSA).

3. RECOMMENDATIONS

3.1 To expedite technical translation of proposed projects from English to Spanish and Spanish to English.

3.2 To prepare and submit additional projects in the areas requested at the general sessions of COPANT Technical Committee 6 for Textile Standards.

3.3 To submit technical reports and bulletins in the areas requested at the general sessions of COPANT Technical Committee 6 for Textile Standards and also in the fields suggested by the Editor of Textil Peru.

3.4 To participate in the seminar to be held in April 1963 in Lima, and to provide technical personnel to lead the discussions of the several topics selected for the seminar.

3.5 To organize and appoint competent technical textile personnel as official delegates to the future meetings.

4. INTRODUCTION

The general plans for the Lima meetings of COPANT Technical Committee 6 for Textile Standards, and for participation by technical personnel from Central and South American countries, were initiated in numerous conferences described in NBS Report No. 7585, dated August 6, 1962. To implement these plans, the staff of INANTIC prepared 7 projects for consideration at the Lima meetings and NBS, ASTM, and AATCC prepared 32 projects. Funds were provided by OTS to initiate the translation of these projects from Spanish to English, and English to Spanish. However, with the very limited funds and time available before the Lima meeting, it was not possible to complete much of this phase of the work. Even with these severe limitations, it was possible to accomplish much during this initial meeting. However, the major tasks remain for the future meetings that have been scheduled. A great deal of preliminary work and planning must be done in the interim between these meetings.

5. GUATEMALA CITY, GUATEMALA. NOVEMBER 3-5, 1962.

5.1 United Nations Technical Council for Central America.

Dr. Ing. Eberhard Schaefer, Adviser Textile Industry.

The program of Technical Committee 6 for Textile Standards of COPANT (Commission Pan American Normas Tecnicas) was reviewed and means for obtaining the cooperation and participation of the Central American countries were discussed. In addition to providing excellent background, technical, and statistical information concerning the Central American Textile Industry and standardization activities, Dr. Schaefer explained the recent organization of the Central American Textile Association and its functions, which include Textile Quality Control Methods and Standards for Textiles. In addition to his high competence in Textile Technology, Dr. Schaefer is fully informed concerning the technical and economical problems of the Central American Textile Industry and is contributing importantly to their solutions. His willingness to cooperate fully through the Central American Textile Association in the program for the development of Pan American Standards for Textiles was most encouraging and his services and technical knowledge should be eagerly sought and used.

5.1 - continued.

Dr. Schaefer indicated that he desired copies of the documents issued in connection with the activities of Technical Committee 6 of COPANT, and as soon as the organization of the Central American Textile Association is completed, he would furnish the names of key personnel who should also receive these documents in order to contribute and participate in this important program.

5.2 Instituto Centroamericano De Investigacion Y Technologia Industrial (ICAITI).

Dr. Otto Stern, Director
Dr. Francisco Aguirre, Sub-Director General
Dr. Pio Gonzales, Staff Member

It was a great pleasure to learn of the interest and plans of ICAITI for participation in the programs of COPANT, including that of Technical Committee 6 for Textile Standards. Unfortunately, owing to difficulties in communications by mail, considerable confusion and uncertainty prevailed concerning the meetings in Lima, and the current status of ICAITI in COPANT. A number of these questions were reviewed and discussed, and Dr. Stern decided that Sr. Gonzales should attend the Lima meetings in order to resolve these with the Officers and Members of the Council of COPANT, and also to attend the opening meetings of the Technical Committee 6 for Textiles Standards. Dr. Stern indicated that ICAITI hopes to participate in the activities of Technical Committee 6 and desires copies of all documents issued in connection with its program, in order to fully inform the newly organized Central American Textile Association. He indicated that ICAITI would like to officially represent the Central American countries on Technical Committee 6 for Textile Standards, but that it must base its position on the technical views and recommendations expressed by the technical subcommittees of the Central American Textile Association. This plan is certainly admirable and commendable and should receive full support.

5.3 United States Embassy.

Mr. Gerald Paul Lamberty, Second Secretary.

The general plans for the Lima meetings of COPANT and of Technical Committee 6 for Textile Standards were explained and summaries were given of the discussions had with Dr. Schaefer of the U. N. and Dr. Stern of ICAITI concerning interest in the activities of COPANT and Technical Committee 6. It was indicated that the Embassy would appreciate being kept fully advised concerning these important programs and also concerning any assistance that can be provided in the future. It was stated in reply that this would be done, and that assistance would be needed should a future meeting be held in Guatemala City or Central America, since such a meeting would be highly desirable. The need for an expanded Textile Industry in Central America was mentioned, and United States participation in this expansion is especially encouraged.

6. LIMA, PERU. NOVEMBER 6-18, 1962.

6.1 United States Embassy.

Mr. Douglas Henderson, Charge D'Affaires
Mr. Frank Albert Mau, Second Secretary
Mr. Robert W. Ross, Commercial Attache

The general programs of COPANT and of Technical Committee 6 for Textile Standards were reviewed in a meeting with Mr. Henderson and Mr. Mau at which Mr. A. Sinay Neves, President of COPANT, Mr. John R. Townsend, Vice President of COPANT, and Mr. Leroy L. Wyman of NBS also participated. The importance of this work was recognized and any assitance needed in connection with the Lima meetings was assured.

Arrangements were made through Mr. Mau and Mr. Ross for typing and duplication of the manuscripts in Spanish of seven standards submitted by the U. S. Delegation. This work was completed before the first session of Technical Committee 6 and copies were made available through INANTIC to all delegates.

6.1 continued.

Similar arrangements were made on a reimbursable basis for the translation from Spanish to English of seven standards submitted by the Secretariat of COPANT Technical Committee 6 for Textile Standards. These translations and duplication were completed before the second session, and copies were made available to the delegates for study and information. This service was essential and contributed immensely to the success at the subsequent sessions. The splendid cooperation and assistance of Mr. Mau, Mr. Ross, and the members of their staff are most sincerely and gratefully acknowledged.

6.2 Council of COPANT, Meetings.

Mr. A. Sinay Neves, Brazil, President
Mr. John R. Townsend, U.S.A., Vice President
Mrs. B. C. de Ciaburri, Argentina, Provisional Secretary
Mr. Juan P. Molfino, Uruguay, Treasurer
Mr. Carlos Hoerning, Chile, Council
Mr. Carlos A. Abeledo, Argentina, Council
Mr. Antonio Aguirre, Argentina
Mr. S. M. del Carril, Argentina
Mr. Juan V. Cabrerizo, Peru, Secretariat TC6
Mr. Pio Gonzales, Guatemala, (ICAITI)
Mr. Leroy L. Wyman, U.S.A.
Mr. Herbert F. Schiefer, U.S.A.

The discussions at all sessions of the COPANT Council Meetings were informative, especially the actions that were considered to implement the development of Pan American Standards. For the purpose of this report it is especially important to note the extensive discussions concerning adoption of By-Laws for the functioning of the Technical Committees of COPANT. Although the final document of the By-Laws is not completed, it is important to note that the Technical Committees are granted much discretion and freedom of action in the accomplishment of their assignments. This is as it should be and will be conducive to initiative and progressive leadership, so essential in expediting the attainment of Pan American Standards. Another important feature of the proposed By-Laws is the endorsement of a uniform form for Pan American Standards, which is in substantial agreement with the form adopted by ISO and strongly recommended by COPANT Technical Committee 6 for Textile Standards.

6.3 Instituto Nacional De Normas Tecnicas Industriales Y Certificacion (INANTIC).

Prof. Juan Vicente Cabrerizo, Director
Mrs. Susana de Carrillo, Chemist
Miss Elsa Camet, Chemist
Staff Members

The Secretariat of COPANT Technical Committee 6 for Textile Standards is held by INANTIC, recently located in new offices at Buenaventura Aguirre 299, 8th floor, in Lima, Peru. Excellent offices and meeting rooms are available for the standardization programs. Additional staff members, especially for clerical and duplication services with excellent new facilities, were available for the meetings of the Council of COPANT and for the meetings of the Technical Committee 6 for Textile Standards. These provisions contributed importantly to the success of these meetings. The staff of INANTIC had prepared seven projects for consideration for Pan American Standards for Textiles, which are listed in Appendix I. These proposals received detail consideration during the meetings of Technical Committee 6 of COPANT.

6.4 Technical Committee 6 of COPANT, Meetings.

The following delegates participated in the sessions of Technical Committee 6 of COPANT:

Argentina: Mrs. B. C. de Ciaburri
Mr. Pedro Canova

Brazil: Mr. Teodomiro de Silva Neto

Central America: Mr. Pio Gonzales

Peru: Mr. Juan V. Cabrerizo
Mrs. Susana LeRoux de Carrillo
Mr. Hernán Denegri
Mr. George R. Schofield
Mr. Juan Villarroel
Mr. Federico Wenzara
Mr. Benjamin Jarufe
Mr. Enrique Bernaola
Mr. Ivan Garcia Cabrejos
Mr. Antonio Pipoli
Mr. John W. Seabright

6.4 continued.

United States: Dr. Herbert F. Schiefer
Mr. Hugh G. Neil
Mr. Richard R. Sitzler
Dr. George S. Wham

During the meetings of COPANT Technical Committee 6 for Textile Standards five general sessions were held. At the opening session three special subcommittees were appointed, and each held four sessions. In addition, technical visits were arranged to the Wool and Speciality Animal Fibers Laboratories of the Universidad Agraria, to the Textile Institute of the Universidad Nacional de Ingenieria, and to the Goodyear Tire and Rubber Plant. The Editor of Textil Peru held a press interview with the delegation to promote the textile standardization programs. The details of these sessions are summarized in the following Report of the U. S Delegation to the American Standards Association.

7. REPORT OF THE U. S. DELEGATION TO THE AMERICAN STANDARDS ASSOCIATION, ASA, ON MEETING OF COPANT TECHNICAL COMMITTEE 6 ON TEXTILES HELD IN LIMA, PERU. NOVEMBER 10-15, 1962.

7.1 Names of the U. S. Delegates Certified by ASA to the Lima Meetings.

Dr. Herbert F. Schiefer, Head of U. S. Delegation
National Bureau of Standards

*Mr. C. W. Bendigo,
Burlington International Service

Mr. Hugh G. Neil,
Special Instruments Laboratory

Mr. Richard R. Sitzler,
Celanese Fibers Company

Dr. George S. Wham,
Good Housekeeping Institute

*Mr. Bendigo was unable to attend.

7.2 November 9, Friday.

Dr. George S. Wham and Mr. Hugh G. Neil arrived in Lima at 6:30 p.m. Dr. Schiefer had arrived November 6 to plan the program for the meeting, and Mr. Sitzler was due to arrive Sunday, November 11. Mr. Bendigo was not able to attend.

Immediately upon arrival, the delegates were invited to a reception given in honor of the delegates by the President of INANTIC. This gave the delegates an opportunity to meet the officers and members of the Council of COPANT (formerly CPANT), Commission of Pan American Normas Tecnicas. Also the opportunity was given for the delegates to meet the officials of INANTIC and other officials of Peru.

7.3 November 10, Saturday.

The American delegates met in special session at 8:30 a.m. to prepare plan of action for Organizational Meeting at Sociedad Nacional de Industrias, Union 284, 6th floor, at 10:00 a.m. Dr. Schiefer reported that arrangements had been made with the U. S.Embassy for an English translation of the seven projects by the Secretariat.

At 10:10 a.m. the Organizational Session was called to order by the Director of INANTIC, Prof. Juan V. Cabrerizo, who served as Chairman of the Secretariat Comite Tecnico Textil - Committee 6 of COPANT. He welcomed all the delegates to the meeting and stated that he looked forward to their contribution to the textile standardization activity. He then introduced Ing. Beatriz G. de Ciaburri, the Provisional General Secretary of COPANT. She expressed the hope that the meeting would be successful and complimented the Secretariat for the speed with which he had organized the details for this technical meeting and praised him for excellent projects that the Secretariat had proposed for study. She also expressed pleasure that delegates from other countries had submitted additional proposals for consideration at this and future meetings. She commented favorably on the action of the Council of COPANT in laying plans for a textile seminar to be held in April 1963 in Lima. Of considerable importance from her standpoint, was the fact that this action had been taken and she expressed the hope that the U.S.A. and other countries would continue this active participation and support in and

7.3 continued.

of this important work. She emphasized that the U.S.A. delegates were present to assist in the developing Pan American Standards, but were not present to impose existing U.S. Standards; that they recognize that the requirements for standards in Latin America are different.

The Temporary Chairman, Cabrerizo, introduced the delegates and then called for nominations for Chairman and Secretary for the Technical Sessions. It was unanimously decided that Prof. Cabrerizo serve as Permanent Chairman, and Prof. George R. Schofield as Secretary. Prof. Cabrerizo discussed the proposed projects of the Secretariat, Appendix I, and recommended formation of three sub-committees; namely,

Sub Committee 1 - Definitions and Terminology of Fibers and Textile Products; assigned Projects 1 and 2.

Sub Committee 2 - Testing Procedures; assigned Projects 3 and 4.

Sub Committee 3 - Fiber Classification; assigned Projects 5 and 6.

He then reviewed the schedule of meetings of Sub Committees and General Session Meetings for the remainder of the Conference.

7.4 November 11, Sunday.

The U. S. Embassy completed the translation of the proposals of the Secretariat and delivered them to the Hotel Bolivar at 10:10 a.m. The U. S. delegation reviewed these in preparation for the meeting of the three sub-committees on Monday, November 12.

7.5 November 12, Monday.

The delegates met at a breakfast meeting to brief Richard R. Sitzler who arrived late Sunday. They then moved to the offices of INANTIC for meeting of the three sub-committees which convened promptly at 9:00 a.m.

7.5 continued.

7.5.1 Sub Committee #1 - Members Present.

Dr. Wham, U.S.A.; Ing. Silva Neto, Brazil; Ing. Enrique Bernaola, Ing. Ivan Garcia Cabrejos, and Ing. Benjamin Jarufe, Peru.

This group reviewed the proposals relating to Definitions and Terminology of Fibers and Textile Products in Project 1. Good progress was reported at the closing of the session at 7:00 p.m.

7.5.2 Sub Committee #2

This Committee convened and sat in ression from 9:00 a.m. to 1:00 p.m., and from 3:30 to 7:00 p.m., during which time the members reviewed each item of Project 3, Definitions and Terminology Relating to Hygrometric Concepts. A complete revised draft was submitted for typing in both Spanish and English. Members present were:

Richard R. Sitzler, U.S.A; Prof. George R. Schofield, Prof. Juan Villarroel, Mr. Antonio Pipoli, Mr. John W. Seabright, Peru; and Dr. Herbert F. Schiefer, U.S.A.

7.5.3 Sub Committee #3 - Members Present.

Mrs. Susana LeRoux de Carrillo, Dr. Hernán Denegri, Peru; Ing. Teodomiro de Silva Neto, Brazil; Ing. Pedro Canova, Argentina; and Mr. Hugh G. Neil, U.S.A.

The Committee convened at 9:00 a.m. to consider Project #5, namely, Classification of Textile Fibers. Agreement was reached unanimously on Classification of Fibers paralleling closely ASTM fiber classifications. The Sub Committee then considered Project #6, Listing of Natural and Man-Made Fibers. Good progress was reported on all natural fibers.

7.6 At a special working session at luncheon, the U.S.A. delegates were interviewed by Doctor Augusto Elmore, editor "Peru Textil". The purpose of this interview was to explore means by which the U. S. delegation could supply technical information of value to the Peruvian Textile Industry. The delegates unanimously agreed to cooperate diligently in this mutually beneficial project with Latin America. They further discussed at a later session means by which the transmital of pertinent information could be supplemented.

7.7 November 13, Tuesday.

The third session of the delegates convened at 9:00 a.m. in the meeting rooms of INANTIC and the various sub-committees continued their discussions of the assigned projects. At 12:00 noon the delegates moved to the Peru Agricultural College for a review of the work on wool and Alpaca fiber by Prof. Juan Villarroel. The group was met on the campus by the President of the College. Afterward, the delegates moved to Grandja Azul Club where they were entertained at luncheon by the permanent Secretariat, Dr. Juan Cabrerizo. After lunch the delegates continued their deliberation in the offices of INANTIC - meeting adjourned at 7:00 p.m.

The U. S. delegation returned to the Grand Bolivar Hotel for an evening discussion of the day's events, and for the purpose of planning the activities of the U. S. delegation at the meeting to convene at 9:00 a.m., November 14.

7.8 November 14, Wednesday.

The meeting of all the delegates convened at 9:00 a.m. in the offices of INANTIC, in a general session. The first item of business was the presentation of the report of Sub Committee #3, "Fiber Classification" and "List of Natural and Man-Made Fibers" by Susan Carrillo, Chairman. After detailed discussions the report was adopted with minor editorial changes. Sub Committee #2 then reported on the work on "Terms Relating to Conditioning and Testing". This report was given by Prof. George R. Schofield of the Peruvian delegation. After considerable discussion and revision this report was accepted and adopted by the delegates. The meeting adjourned at 12:00 o'clock for the purpose of observing the excellent facilities of the Textile Institute at the National University For Engineering. After a tour of the Textile Institute at the University, the delegates moved to the Hotel Bolivar, where they were entertained at luncheon as guests of the United States delegation.

After luncheon, the delegates returned to INANTIC and went into general session to continue the discussions on the projects assigned to Sub Committee #2. Meeting adjourned at 7:00 p.m.

7.9 November 15, Thursday.

The meeting of all the delegates convened at 9:00 a.m. in the offices of INANTIC, in a general session. The first item of business was a discussion of the plans for the future program. The matter of future meetings was considered and it was agreed to schedule the next four meetings as follows:

April, 1963	in Lima, Peru
November, 1963	in Lima, Peru
April - May, 1964	in Rio de Janeiro, Brazil
Sept. - Oct., 1964	New York, N.Y., U.S.A.

It was agreed to sponsor a seminar during April 1963 in accordance with the recommendation of Council of COPANT. The tentative topics for this seminar include: Cotton Fiber Testing; Quality Control; Writing of Standards; and General Textile Testing. The view was expressed that it would be desirable to have, Miss Josephine M. Blandford, Prof. Dame S. Hamby, Dr. Earl E. Berkley, Dr. Ruby K. Worner, and others from U.S.A. contribute to this seminar. Documents on Statistical Analyses and Quality Control published by ASTM or ASA are desired.

The list of proposed standards submitted by the U.S.A. and other Delegations, Appendix II, was considered and priorities in categories 1, 2, and 3 were assigned. The three ISO draft documents for yarns obtained from the British Standards Institute (BSI) for the Lima meeting, were accepted as part of the future program and assigned to the priority 1 category. A proposal from IRAM, Argentina, and one from Chile, were also accepted for the future program. It was agreed to consider the ISO drafts for Cotton Fiber Testing in the future program, and the latest drafts were requested since this subject will be a topic for the proposed seminar. A request was made to include work on Tire Cords in the future program and this was approved.

A strong plea was made to translate all the proposals into Spanish at an early date. This is essential and would speed up progress immensely. The minutes of meetings on previous days were discussed and approved for circulation. The meeting adjourned at 1:00 p.m. until 4:00 p.m.

7.10 The last general session was convened shortly after 4:00 p.m., and the report of Subcommittee 2 was continued and completed. However, again much time was needed in attempts to translate English terminology into equivalent Spanish, "toughness" being a good example. The report of Subcommittee 1 was presented by Ing. Jarufe and a number of changes were discussed concerning project 1. Since the hour was late it was agreed to circulate the approved project for comment. The Subcommittee reported that it had no time to consider project 2 on terminology of fabric defects, and recommended that this project be considered as part of the future program and this was approved. Project 7 was approved for circulation with essentially no changes after a very full discussion.

The accomplishments, actions, and plans of the meetings were reviewed by Prof. Cabrerizo and he expressed great pleasure for the outstanding attainments by the delegates and for their splendid cooperation, hard work, and friendly spirit. He expressed special thanks to Sra. Carrillo and Prof. Schofield for their excellent work that contributed so immensely to the success of this meeting. The delegates from Brazil, Argentina, and U. S. A. expressed similar views in brief statements. The meeting adjourned at 7:00 p.m., with the announcement that the final minutes would be distributed for concurrence on Friday, November 16, and that a visit had been arranged for the delegates to observe the Goodyear Plant in Lima at 10:00 a.m., Friday, November 16.

7.11 November 16, Friday.

Prior to a guided tour of the excellent plant of Goodyear, it was possible to review with management the purposes of developing Pan American Standards for Textiles. This effort was considered not only timely and beneficial but also essential, especially for tire cords. Full support of this work was indicated and active participation by technical personnel was promised for the development of standards for Tire Cords. The visit through the plant was of great interest to the delegates, who posed a number of questions.

7.11 continued.

A final discussion was had with Prof. Schofield between 7 and 8 p.m., at which time the final minutes were reviewed and minor changes suggested. The topics for the seminar were again reviewed and the training aspects of the seminar were re-emphasized. The role of the Textile Institute and the future plans for this Institute were explained.

8. APPENDIX I.

PROJECTS PROPOSED BY THE SECRETARIAT OF COPANT TECHNICAL COMMITTEE 6 FOR TEXTILE STANDARDS

8.1 Draft PASC Recommendation /SC 6 No. 1 - Terminology and Definitions of Fiber and Textile Products.

8.2 Draft PASC Recommendation/SC 6 No. 2 - Terminology and Definitions of Fabric Defects.

8.3 Draft PASC Recommendation/SC 6 No. 3 - Terminology and Definitions Relating to Conditioning of Textiles.

8.4 Draft PASC Recommendation/SC 6 No. 4 - Definitions Concerning the Properties of Textile Materials.

8.5 Draft PASC Recommendation/SC 6 No. 5 - Classification of Textile Fibers.

8.6 Draft PASC Recommendation/SC 6 No. 6 - List of Man-Made and Natural Fibers.

8.7 Draft PASC Recommendation/SC 6 No. 7 - Direction of Twist in Textile Yarns.

APPENDIX II.

9. PROJECTS FOR FUTURE PROGRAM OF COPANT TECHNICAL COMMITTEE 6 FOR TEXTILE STANDARDS PROPOSED BY PARTICIPATING COUNTRIES.

9.1 Priority Category 1.

9.1.1 Length of Cloth.(Longitud de la tela). [U.S.A]

9.1.2 Width of Cloth.(Ancho de la tela) [U.S.A.]

9.1.3 Thickness of Cloth.(Grosor de la tela) [U.S.A.]

9.1.4 Weight of Cloth: Small Specimen Method. (Peso de la tela: Metodo de la muestra pequena) [U.S.A.]

9.1.5 Yarn per inch in Woven Fabric.(Hilos por pulgada en tejidos planos) [U.S.A.]

9.1.6 Strength and Elongation, Breaking, of woven cloth; Grab Method. (Resistencia a la rotura de la tela; Metodo de alargamiento) [U.S.A.]

9.1.7 Strength and Elongation, Breaking, of woven cloth; Cut Strip Method. (Resistencia a la rotura de las telas planas; Metodo de la Cinta Cortada [U.S.A.]

9.1.8 Strength and Elongation, Breaking, of woven cloth; Ravel Strip Method. (Resistencia a la rotura de las telas planas; Metodo de la cinta deshilachada) [U.S.A]

9.1.9 Twist in Yarns (Direct-Counting Method). [U.S.A]

9.1.10 Skein Strength of Yarns. [Requested by COPANT Technical Committee 6]

9.1.11 Tex Yarn Numbering Method. [ISO]

9.1.12 Method of Test for Twist in Yarns [ISO]

9.1 continued

9.1.13 Method of Test for Breaking Load and Breaking Elongation of Single Strands of Yarn From Packages. [ISO]

9.1.14 Method of Test for Linear Density (Mass per unit length) of Yarns from Packages & Skein Method [ISO]

9.1.15 Sistoma Tex para designar el titulo de las fibras textiles, hilos, productes intermedios y sindlares. [ARGENTINA]

9.1.16 Absorcion De Humedad De Las Fibras Textiles: Especificaciones. [CHILE]

9.1.17 Colorfastness to Water. (Solidez del color al agua) [U.S.A.]

9.1.18 Colorfastness to bleaching with chlorine: Cotton and linen. (Solidez al blanqueo con cloro: Algondon y lino). [U.S.A.]

9.1.19 Colorfastness to sunlight. (Solidez del color a la luz solar) [U.S.A.]

9.1.20 Colorfastness to daylight. (Solidez del color a la luz del dia). [U.S.A.]

9.1.21 Colorfastness to washing: Domestic and Commercial Laundering, Accelerated. (Solidez del color al lavado: lavados domestico e industrial acelerados). [U.S.A]

9.1.22 International Geometric Gray Scale for evaluating color transfer [6.1]. (Escala Gris geometrica internacional para valorar transferencias de color. [6.1] [U.S.A.]

9.1.23 AATCC Chart for measuring color transfer[7.1]. (Carta AATCC para medir las transferencias de color[7.i] [U.S.A.]

9.1 continued.

9.1.24 International Geometric Gray Scale for classifying color changes[7.1]. (Escala Gris geometrica internacional para clasificar cambios de color[7.1]. [U.S.A.]

9.1.25 Cotton Fiber Testing Methods (ISO Drafts). [Requested by COPANT Technical Committee 6]

9.1.26 Tire Cord Testing Methods and Specifications. [Requested by PERU]

9.1.27 Standard Methods for Statistical Analyses. [Requested by COPANT Technical Committee 6]

9.2 Priority Category 2.

9.2.1 Strength of Cloth; Diaphragm Bursting Method for Low-Strength Cloth. (Resistencia de la tela; Metodo para la determinacion del reventamiento con diafragma para tejidos de poca resistencia). [U.S.A.]

9.2.2 Strength of Cloth; Diaphragm Bursting Method for High-Strength Cloth. (Resistencia de la tela; Metodo para la determinacion del reventaminento con diafragma para tejidos de alta resistencia). [U.S.A]

9.2.3 Colorfastness to Perspiration. (Solidez del color al sudor) [U.S.A]

9.2.4 Strength of Cloth; Ball-bursting Method. (Resistencia de la tela al reventamiento; metodo de la bola) [U.S.A]

9.2.5 Strength of Cloth; Tearing; Falling-pendulum Method. (Resistencia de la tela al desgarramiento; Metodo del pendulo). [U.S.A]

9.2.6 Strength of Cloth; Tearing; Tongue (Single-rip) Method. (Resistencia de la tela al desgarramiento; metodo de las lenguetas). [U.S.A]

9.3 Priority Category 3.

9.3.1 Weight of Cloth: Cut, Roll, or Bolt Method. (Peso de la tela: Metodo de la pieza, rollo o media pieza). [U.S.A]

9.3.2 Bow of Yarns in Woven Cloth. (Curvatura de los hilos en las telas). [U.S.A.]

9.3.3 Wales Courses in Knit Cloth. (Columnas y carreras en el tejido de punto). [U.S.A.]

9.3.4 Colorfastness to hot pressing, dry and wet: Cotton and Linen Textiles. (Solidez del color al planchado en caliente, en seco y en humedo: Teji dos de algodon y lino). [U.S.A.]

9.3.5 Sewability of Woven Cotton Cloth; Seam Efficiency Method. (Facilidad de costura de los tejidos planos de algodon; Metodo de eficiencia de cosutra). [U.S.A]

9.3.6 Sewability of Woven Cotton Cloth; Yarn Severance Method. (Facilidad de costura de los tejidos planos de algodon; Metodo de hilos cortados). [U.S.A.]

9.3.7 Weathering Resistance of Cloth; Natural Weathering Method. (Resistencia de la tela a la intemperie; Metodo de exposicion al natural). [U.S.A]

9.3.8 Weathering Resistance of Cloth; Accelerated Weathering Method (Sunshine carbon arc weathering lamp). (Resistencia de la tela a la intermperie: Metodo de exposicion acelerado (Lampara de luz solar con arco de carbón). [U.S.A.]

9.3.9 Colorfastness to Crocking (Rubbing). (Solidez del color al frotamiento). [U.S.A.]

U. S. DEPARTMENT OF COMMERCE
Luther H. Hodges, *Secretary*

NATIONAL BUREAU OF STANDARDS
A. V. Astin, *Director*

THE NATIONAL BUREAU OF STANDARDS

The scope of activities of the National Bureau of Standards at its major laboratories in Washington, D.C., and Boulder, Colorado, is suggested in the following listing of the divisions and sections engaged in technical work. In general, each section carries out specialized research, development, and engineering in the field indicated by its title. A brief description of the activities, and of the resultant publications, appears on the inside of the front cover.

WASHINGTON, D. C.

Electricity. Resistance and Reactance. Electrochemistry. Electrical Instruments. Magnetic Measurements. Dielectrics. High Voltage.

Metrology. Photometry and Colorimetry. Refractometry. Photographic Research. Length. Engineering Metrology. Mass and Scale. Volumetry and Densimetry.

Heat. Temperature Physics. Heat Measurements. Cryogenic Physics. Equation of State. Statistical Physics.

Radiation Physics. X-ray. Radioactivity. Radiation Theory. High Energy Radiation. Radiological Equipment. Nucleonic Instrumentation. Neutron Physics.

Analytical and Inorganic Chemistry. Pure Substances. Spectrochemistry. Solution Chemistry. Standard Reference Materials. Applied Analytical Research. Crystal Chemistry.

Mechanics. Sound. Pressure and Vacuum. Fluid Mechanics. Engineering Mechanics. Rheology. Combustion Controls.

Polymers. Macromolecules: Synthesis and Structure. Polymer Chemistry. Polymer Physics. Polymer Characterization. Polymer Evaluation and Testing. Applied Polymer Standards and Research. Dental Research.

Metallurgy. Engineering Metallurgy. Microscopy and Diffraction. Metal Reactions. Metal Physics. Electrolysis and Metal Deposition.

Inorganic Solids. Engineering Ceramics. Glass. Solid State Chemistry. Crystal Growth. Physical Properties. Crystallography.

Building Research. Structural Engineering. Fire Research. Mechanical Systems. Organic Building Materials. Codes and Safety Standards. Heat Transfer. Inorganic Building Materials. Metallic Building Materials.

Applied Mathematics. Numerical Analysis. Computation. Statistical Engineering. Mathematical Physics. Operations Research.

Data Processing Systems. Components and Techniques. Computer Technology. Measurements Automation. Engineering Applications. Systems Analysis.

Atomic Physics. Spectroscopy. Infrared Spectroscopy. Far Ultraviolet Physics. Solid State Physics. Electron Physics. Atomic Physics. Plasma Spectroscopy.

Instrumentation. Engineering Electronics. Electron Devices. Electronic Instrumentation. Mechanical Instruments. Basic Instrumentation.

Physical Chemistry. Thermochemistry. Surface Chemistry. Organic Chemistry. Molecular Spectroscopy. Elementary Processes. Mass Spectrometry. Photochemistry and Radiation Chemistry.

Office of Weights and Measures.

BOULDER, COLO.

Cryogenic Engineering Laboratory. Cryogenic Equipment. Cryogenic Processes. Properties of Materials. Cryogenic Technical Services.

CENTRAL RADIO PROPAGATION LABORATORY

Ionosphere Research and Propagation. Low Frequency and Very Low Frequency Research. Ionosphere Research. Prediction Services. Sun-Earth Relationships. Field Engineering. Radio Warning Services. Vertical Soundings Research.

Radio Propagation Engineering. Data Reduction Instrumentation. Radio Noise. Tropospheric Measurements. Tropospheric Analysis. Propagation-Terrain Effects. Radio-Meteorology. Lower Atmosphere Physics.

Radio Systems. Applied Electromagnetic Theory. High Frequency and Very High Frequency Research. Frequency Utilization. Modulation Research. Antenna Research. Radiodetermination.

Upper Atmosphere and Space Physics. Upper Atmosphere and Plasma Physics. High Latitude Ionosphere Physics. Ionosphere and Exosphere Scatter. Airglow and Aurora. Ionospheric Radio Astronomy.

RADIO STANDARDS LABORATORY

Radio Physics. Radio Broadcast Service. Radio and Microwave Materials. Atomic Frequency and Time-Interval Standards. Radio Plasma. Millimeter-Wave Research.

Circuit Standards. High Frequency Electrical Standards. High Frequency Calibration Services. High Frequency Impedance Standards. Microwave Calibration Services. Microwave Circuit Standards. Low Frequency Calibration Services.


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