

January 4, 1945.

Mr. C. G. Bayles,
Superintendent,
Buildings and Grounds.

Dear C. G.:

I have a pamphlet put out by the Acousti-Celotex people on sound conditioning for educational buildings. They are now using this material for gymnasium ceilings, and it seems to me it would be well to consider the use of celotex for our building when the gymnasium is re-wired.

Sincerely yours,

Director of Physical Education,
Varsity Basketball Coach.

FCA:AH

In penetrating and traveling through this maze, the sound wave encounters just enough resistance to create friction which transforms the acoustic energy into heat.

Practically, the sound is "soaked up" by the material rather than reflected back into the room.

15 How does Sound Conditioning "stop" noise?

Sound Conditioning in itself does not stop noise; a cough, a typewriter, a dropped tray, a bookkeeping machine, a ringing telephone bell, a punch press, a band saw or any other noise source generates as much acoustic energy in one location as another.

The loudness is lessened in a sound conditioned room because the original sound dies out faster. It is not amplified by repeated reflections from ceiling to floor and wall to wall as it is in an average room.

Sound is reflected from a hard surface just as light is reflected by a mirror. In the average room with hard plaster walls and ceilings, the sound traveling at an approximate speed of 1120 feet per second, will bounce around the room in all directions many times before the energy it contains is dissipated, or absorbed.

The acoustical material used for sound conditioning absorbs far more of this energy than do ordinary materials, thereby hastening the silencing of the sound.

16 How is "Adequate Absorption" determined for a room?

If your car travels 14 miles on one gallon of gasoline and you now have five gallons in the tank, with a journey of 182 miles before you—you can easily calculate that eight gallons more will be required to make the trip.

Likewise, the Sound Conditioning Engineer knows the present absorption capacities of the materials and furnishings in a room, and how far present average noise levels can be profitably lowered by additional absorption. From this he can easily calculate how much additional absorption is required to bring a satisfactory result.

17 Is it possible to calculate the length of time sound will remain audible in an auditorium after the source has ceased?

Yes, the period of reverberation can be mathematically determined by means of the Sabine Formula:

$$T = \frac{.05 V}{a}$$

T equals reverberation time measured in seconds.
V equals volume of room expressed in cubic feet.
a equals all existing sound absorbing units.

18 If the period of reverberation is too long, what are the effects?

If a single sound remains audible too long after it has been stopped at its source, it combines with the following sound, or sounds, from the same source, creating a complex mixture of the several sounds. When this effect is

pronounced, the ear cannot distinguish clearly between the individual sounds. For instance, a speaker's words will telescope with those previously spoken making entire phrases "blurred," "fuzzy" and unintelligible.

Music is scrambled in the same way by the "echoes" in an excessively reverberant room. In rehearsals, the conductor or instructor finds difficulty in locating and correcting mistakes.

19 Is Reverberation the sole cause of poor acoustics?

In the majority of instances it is. With few exceptions, removal of excessive reverberation will create good hearing conditions.

In occasional cases the shape of a room or unwisely placed curved surfaces which focus sound at specific points will interfere with satisfactory sound distribution.

20 Is all Reverberation undesirable?

No. A certain amount is essential if speaking and music are to have a pleasing "live" quality.

21 Can Loud Speakers overcome faulty hearing conditions in an auditorium?

As a general rule, no. If reverberation is excessive, speech can not be understood no matter how much it is amplified. The function of loud speakers is to increase the power of the natural voice, when necessary.

22 Is there a proper reverberation time for auditoriums of different sizes and capacities, and how is it determined?

Yes. This is known as the Optimum Reverberation time.

Through painstaking experiment and years of experience and observation, the most satisfactory length of time, in seconds, for sounds to die out in auditoriums of various sizes has become known. This is a matter of record and is used as a base in correcting auditorium acoustics.

23 Does Acousti-Celotex Sound Conditioning cost more to install in existing school buildings than in new ones?

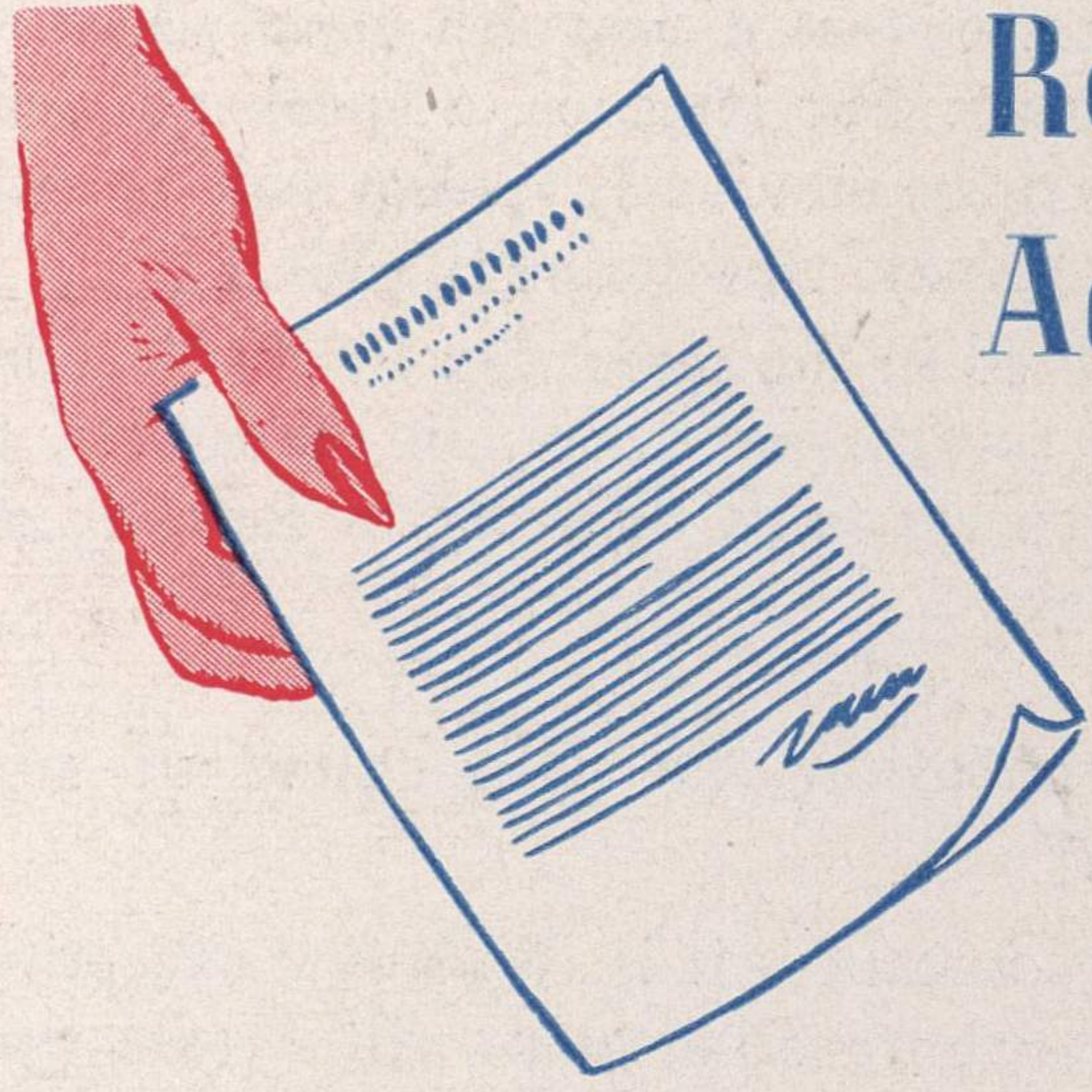
No, in most installations the cost is the same.

24 Does installation of Acousti-Celotex require structural changes in existing buildings?

No, absolutely no structural changes are required.

25 Who applies Acousti-Celotex Sound Conditioning?

Only approved distributors who have organizations trained for accurate engineering and expert application. These distributors are selected by The Celotex Corporation and given thorough training in Acousti engineering and Sound Conditioning practices. See back page of Celotex Sound Conditioning Service.



Read What Some Schools Think of Acousti-Celotex Sound Conditioning

Sound Conditioning with Acousti-Celotex is not an experiment . . . It is today serving in hundreds of schools, colleges and universities in all parts of the nation. Read what some of them have to say . . .

"I am writing to congratulate you on the excellent job of sound conditioning the new University High School . . . The contrast between this school and the other schools not so treated is very evident and is remarked upon by all visitors. The noise-subduing effect of the treatment in corridors and halls is most evident and we are highly pleased with the work," writes B. F. Pittenger, Dean of the School of Education, The University of Texas at Austin.

Brother Anthony, Superior of Morris Institute at Searcy, Arkansas, comments, "We derive quite a little amusement from visitors and inspectors by whom we are frequently asked, 'why we do not allow the boys to be as noisy in the gym as in the adjoining playhalls.' Although they saw the boys run and romp as only boys can do with mouths wide open, the visitors felt that restrictions had been imposed until we explained to them the effect of Acousti-Celotex on the ceiling."

"One of the most appreciated features of our new Greeley Junior High School building is the Acousti-Celotex sound conditioning. Pupils, teachers, and school patrons are universal in their commendation.

"Having moved our general school offices from the High School buildings which is not so treated to this building, I can assure you that the difference is very noticeable. Hundreds of students passing in hallways and coming out of classrooms will cause a certain amount of noise. In this building that noise is cut to a minimum. This treatment, plus the large amount of natural lighting which we have, has made our building one of the most modern in this part of the country."

H. D. ELDRIDGE, Superintendent,
City Schools, Greeley, Colorado

"Three years ago we placed pre-painted Acousti-Celotex on the ceiling of the Lincoln School auditorium. This treatment changed the room from a 'rainbarrel' to an auditorium with perfect acoustics. Two years ago we treated the ceilings of all corridors, music rooms, and office quarters in the Lincoln Building. Our new \$300,000 addition has complete Acousti-Celotex Sound Condition-

ing. The latter includes all classrooms, corridors, gymnasium-auditorium, music rooms, etc. The band room is perfect. It confines all sound. In general, may I say that it prevents teachers' and pupils' nerves from getting on edge. It is conducive to quiet concentration."

REEDE GRAY, Superintendent,
The Public Schools,
Redwood Falls, Minnesota

"In your recent letter you asked me for a recommendation for the Acousti-Celotex you placed on the auditorium ceiling.

"I gave an operetta last fall, before you worked on the auditorium; although the students spoke distinctly it was quite impossible to hear. I found that choruses and glee clubs flatted a half pitch due to the echo. I have had no trouble since the auditorium has been treated. Children, adults, and choruses can all be heard without any straining on the part of the listener.

"Inasmuch as all my work is practically in the auditorium, I find that I no longer have to work and be on a nervous tension."

LOUISE SCHUEFFNER, Music Supervisor,
Kouts High School, Kouts, Indiana

From Charles A. Smith, Kansas City, Architect, "For a number of years I have been using acoustical treatment in the Auditoriums, Music and Expression rooms, Gymnasiums and Swimming Pool rooms of all school buildings, wherever the funds available would allow its use. The beneficial results more than justify the cost."

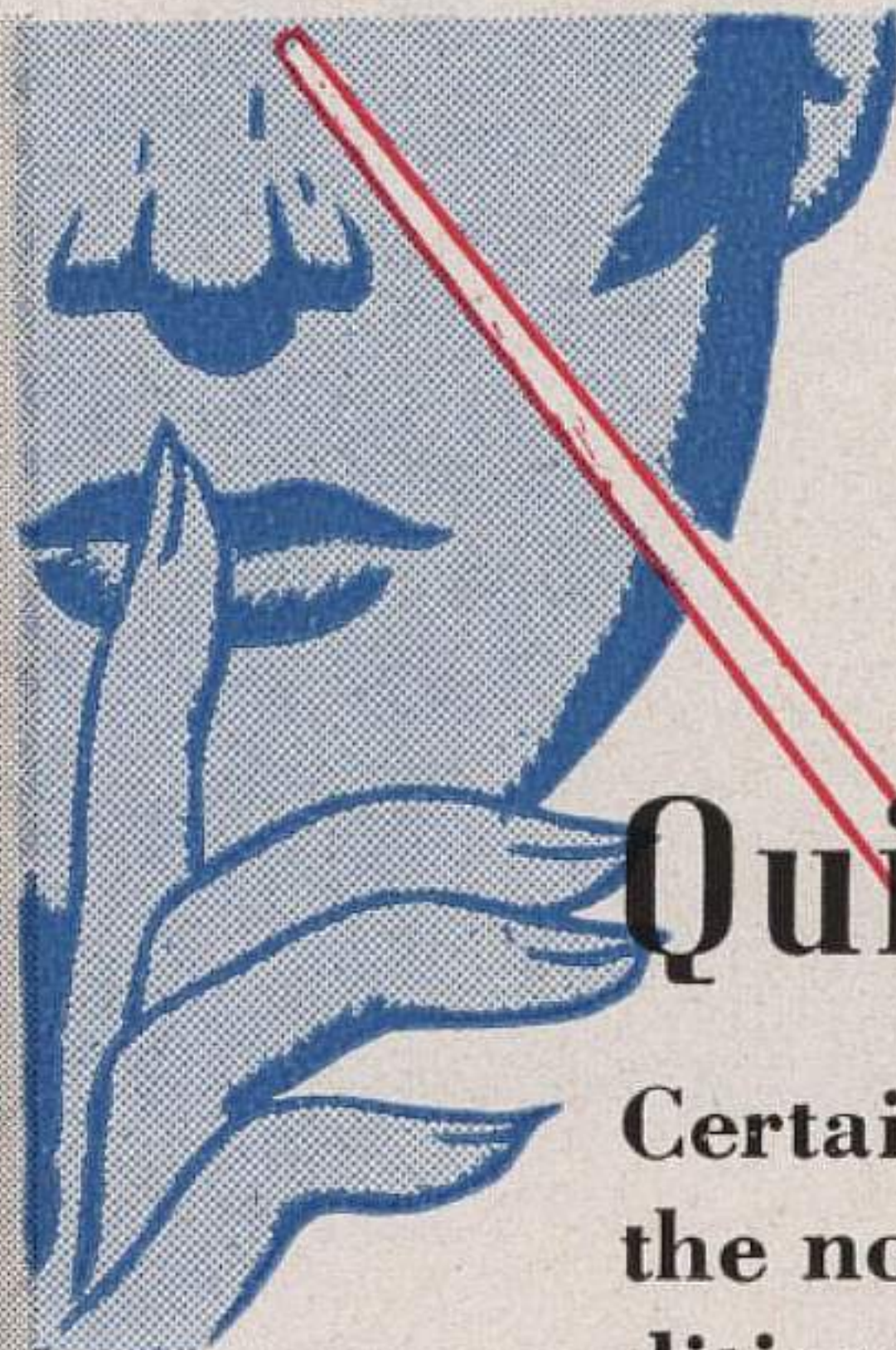
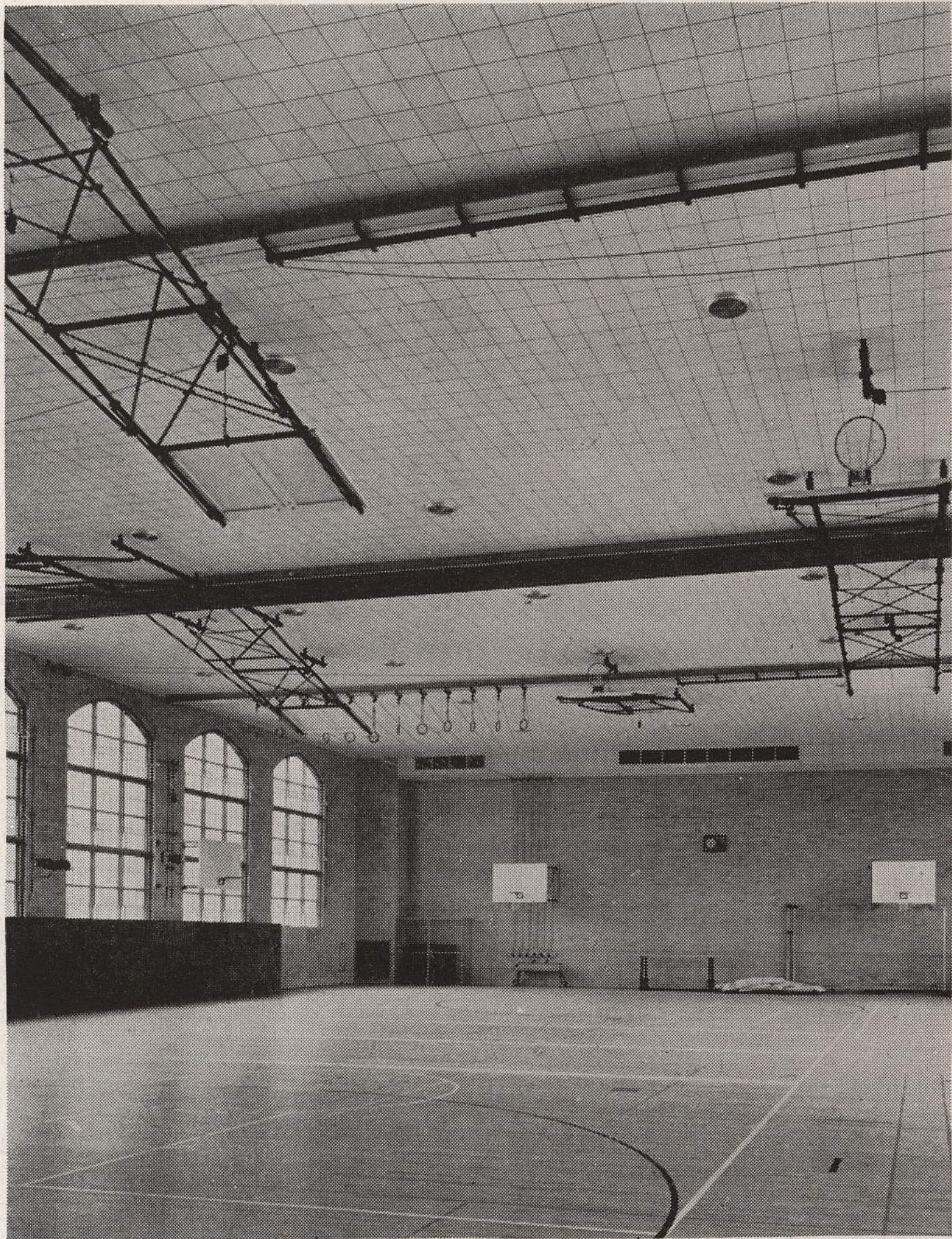
"I have used Acousti-Celotex treatment in twenty-five school buildings in Kansas City, Missouri, and in many other buildings in the surrounding territory, with uniformly satisfactory results.

"The Irvington School has Acousti-Celotex ceilings throughout and the difference in quietness between that building and all other school buildings of the city, is amazing. There is a peace and a relaxed atmosphere which not only simplifies the task of administration, but also improves the disposition and temperament of teachers and pupils. It is one of the greatest agencies for mental hygiene that can be introduced into the school house."

H. M. BARR, Director Research Dept.,
Portland, Oregon, Public Schools

"Iowa State College has installed a considerable amount of acoustical treatment in the past few years and among the rooms which have been treated are lecture and classrooms, accounting offices, small radio broadcasting booth, playing room for the carillon, and a dormitory recreation room. Persons who have occasion to use these rooms are apparently very well pleased with the results which have been obtained.

B. H. PLATT, Superintendent



Quiet for Study and Play

Certainly a gymnasium is no place in which to curb the noise of athletic youth—yet without sound conditioning noise becomes a problem not only for the gym instructor but for instructors and students in *adjoining* classrooms as well. Illustrated is the gymnasium of Eastern High School, Baltimore, sound conditioned with Acousti-Celotex. No better way to lure young people into a library than to provide and insure quiet, without imposing strict rules. Preston M. Geren did just this by using decorated Acousti-Celotex on the ceiling in the New London High School Library, New London, Texas . . . Architects Weiss, Dreyfous & Feiferth, used Acousti-Celotex Sound Conditioning to make lecturing and the taking of notes a simple, easy pleasure in the Leche Hall Lecture Room, Louisiana State Univ.

SELECTING THE PROPER MATERIALS

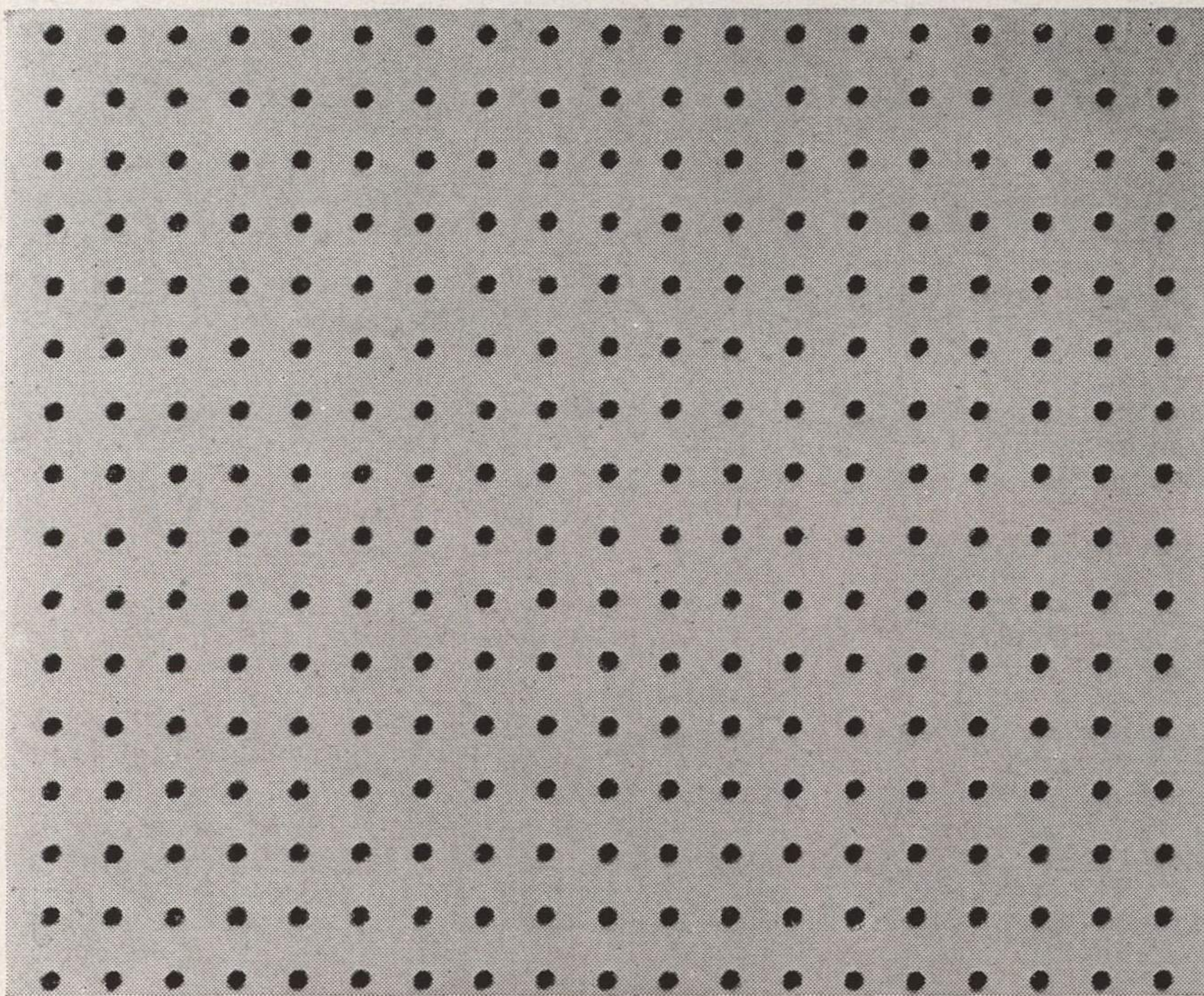
The sound conditioning of building interiors usually requires the introduction of sound-absorbing materials for comfortable and efficient use. Products designed specifically for this purpose are commonly known as *acoustical products*.

Celotex acoustical products include Acousti-Celotex cane and mineral tiles (top two pictures) and Muffletone standard and fissured tiles (two lower pictures). Both are made in different thicknesses, thus providing a range of sound absorption from which proper selection can be made in each case.

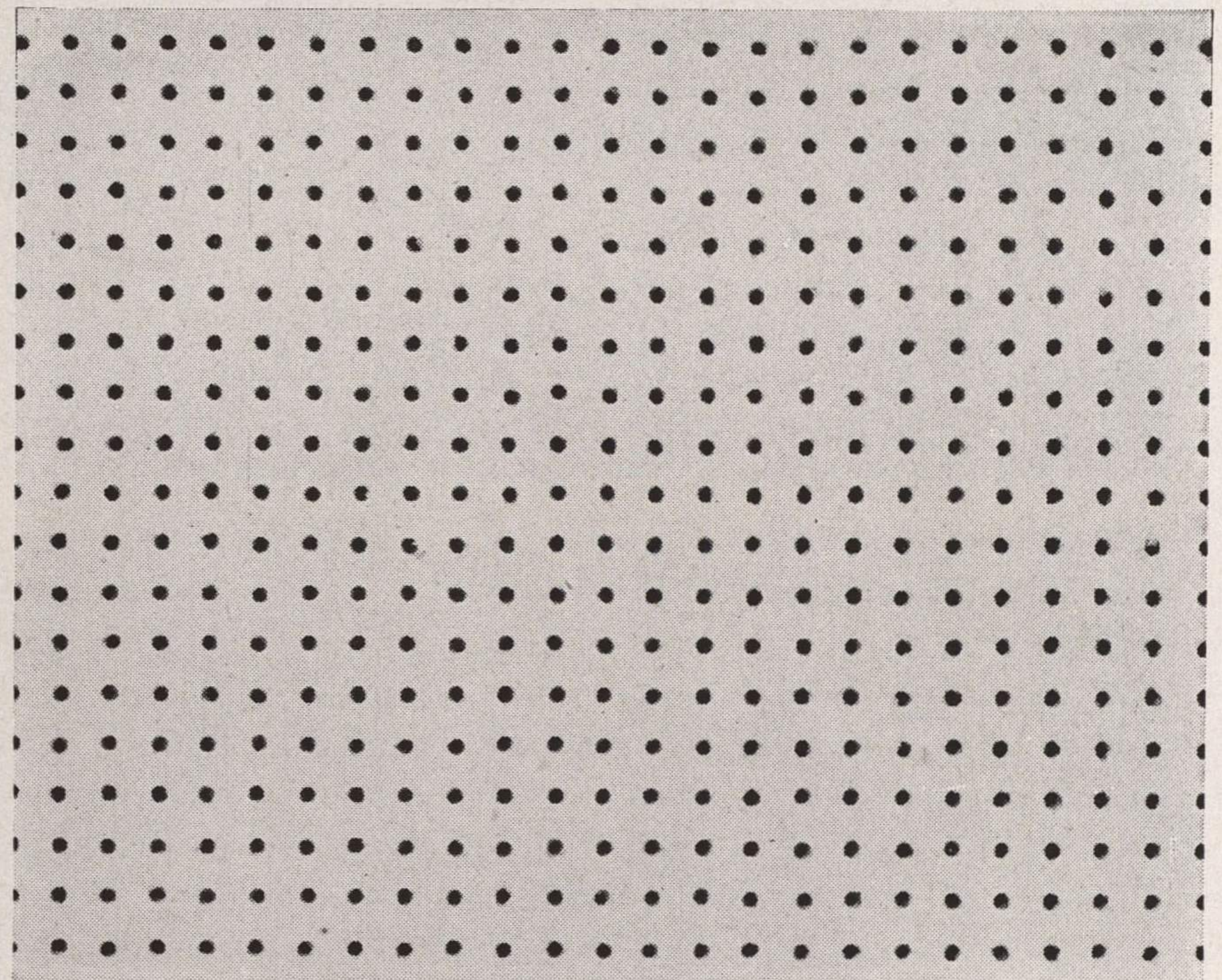
Each area to be sound conditioned must be accurately analyzed and engineered so that the right material may be specified to produce the results desired.

Which material to use, how and where to install it for best results, the mechanics of efficient, economical erection—these important questions may be safely left in the hands of the local Celotex Sound Conditioning distributor. Part of the world's most widely experienced organization in this field, he can be depended upon for competent, efficient service.

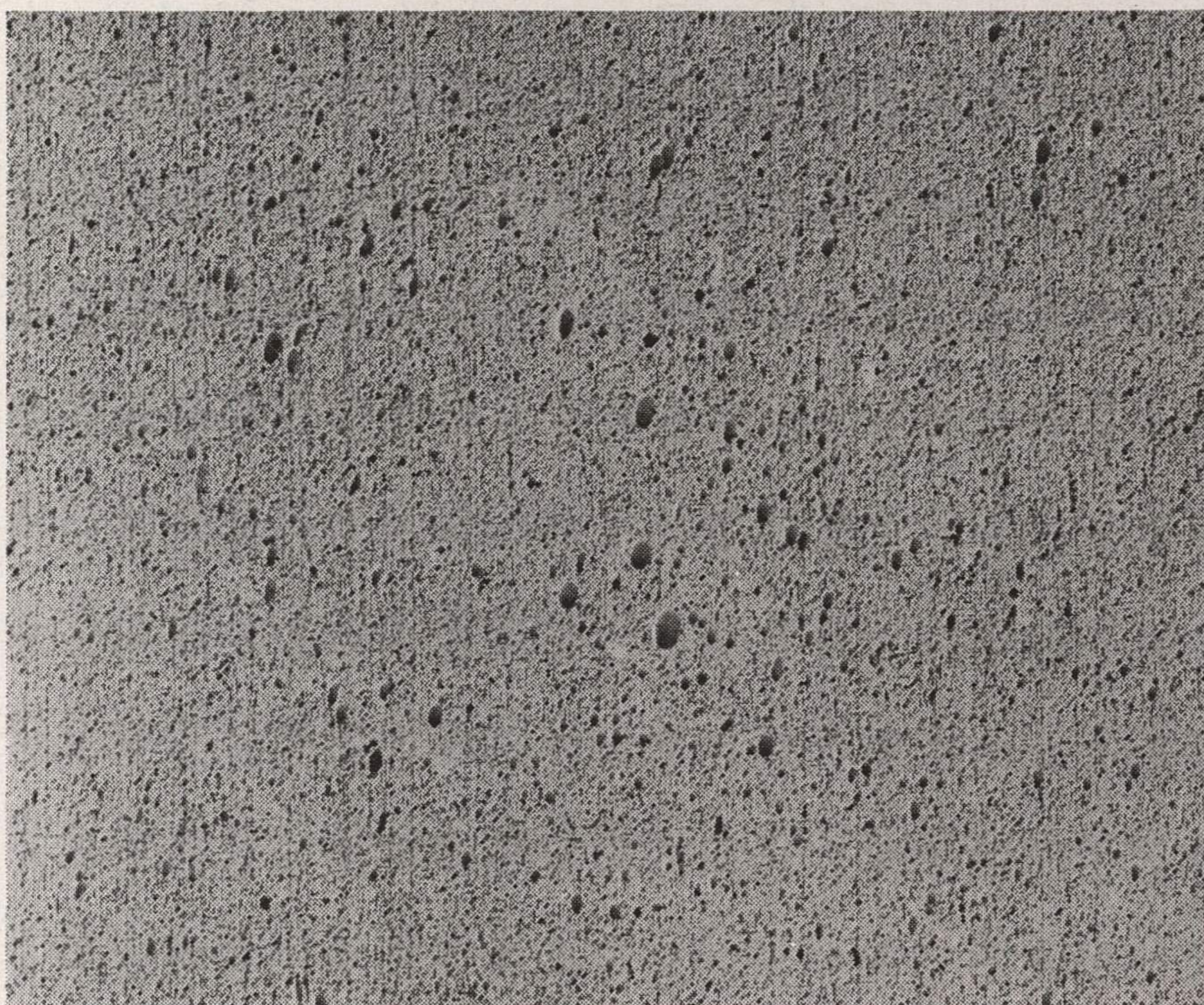
Acousti-Celotex (Cane)



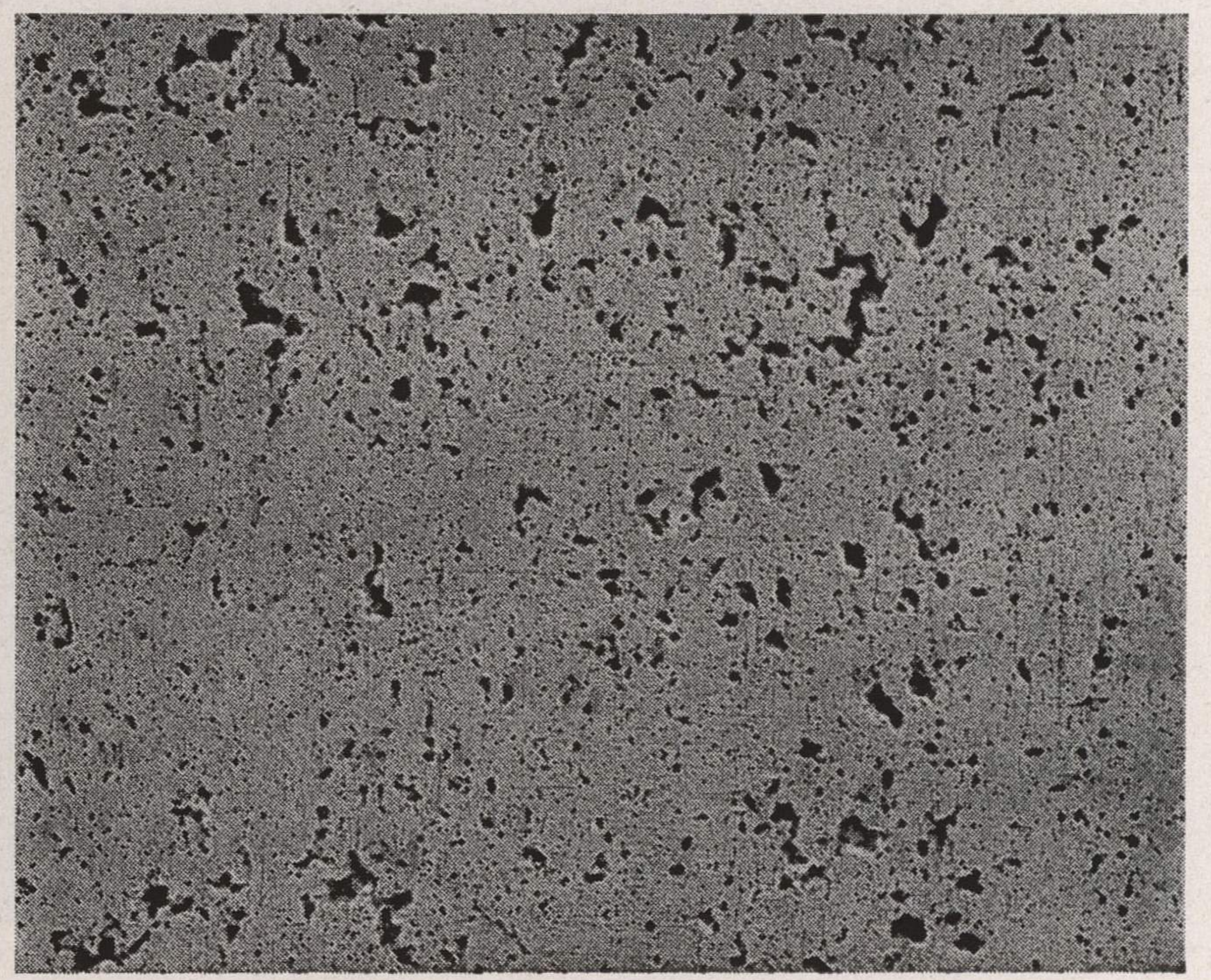
Acousti-Celotex (Mineral)



Muffletone (Standard)



Muffletone (Fissured)



April 25, 1946

Mr. C. G. Bayles, Superintendent
Buildings & Grounds

Dear Mr. Bayles:

Our old diving board is worn out and our new diving board needs things to be done that Mr. Davidson cannot do, due to the fact that he does not have the proper tools.

As I understand it, there must be a cut into the concrete with the proper installation. Will you kindly send one of your men over, and we will have Mr. Reginald Strait go over the project with him so that he can give us an estimate as to the cost of installation. We will then issue a request and a requisition for this work.

Sincerely yours,

Director of Physical Education,
Varsity Basketball Coach.

FCA:MF

P.S. Please ask Mrs. Ingels to phone Mrs. French, my secretary, just before the workmen come over, so that Mrs. French may contact Mr. Reginald Strait, who will give the men the proper instructions regarding the things to be done.

FCA

February 26, 1946

Mr. C. G. Bayles
Buildings and Grounds

Dear C. G.:

Miss Hoover reports to me that some one entered the Women's Physical Education Office and stole keys to the outside door, the pool, room 104, the small closet in room 110, room 4, and the cage. Some intramural medals were also stolen, and the public address system was wrecked.

I would like to ask your advise as to changing these locks so as to prevent the stolen keys from being used.

I will appreciate your prompt attention to this urgent matter.

Sincerely yours,

Director of Physical Education,
Varsity Basketball Coach.

FCA:MF

January 19, 1946

Mr. C. G. Bayles, Superintendent
Buildings & Grounds

Dear C.G.:

Thanks a thousand times for offering to help us with pipe situation. I called Bill Green and got the matter fixed up in a highly satisfactory manner. However, I do appreciate very much your kindness in saying that you would if they didn't, which they did.

I also want to tell you that Charlie Hemp^{lice}, a returning Navy boy from Lawrence, Kansas, stopped in and wanted me to call you to see if I would recommend him as a bookkeeping trainee for your office. I believe he applied to Karl Klooz and Karl Klooz asked that he get some recommendations to submit to you. I want you to know that I have been acquainted with this young man for over 15 years and found him to have an exemplary character, to be courteous, to be trustworthy and to be dependable in every way. He is honest to the extreme degree. He has a nice personality, gets along well with people and has always assumed a full share of responsibility. I would recommend him without reservation. I trust that you can use this young veteran.

I will call you on the phone, but I wanted to get this on your desk at the earliest possible moment. I tried to call you but learned that you were out of town for a couple of days.

Sincerely yours,

Director of Physical Education,
Varsity Basketball Coach.

FCA:MF

Charlie:

I am going to see Mr. Bayles personally but thought you might want a copy of the note that I sent him. A part of the letter is personal, which, of course, does not apply to you, but that makes no difference so long as we get the job done for you. Call on me, Charlie, when ever I can help you in any way. It will be a real pleasure to do so.

FCA

January 14, 1946

Mr. C. G. Bayles, Superintendent
Buildings & Grounds

Dear Mr. Bayles:

Mr. Reginald Strait of our department, who supervises the care of chlorination in the swimming pool, reports to me that there is a very bad leak on the west wall in the chlorinating room. He is not able to detect from whence the water is coming but he is afraid that this hazard will cause damage to the chlorinator.

We will appreciate it greatly if you would have one of your men look into this at your early convenience because we assure you that we desire to keep this very valuable equipment in its best possible shape. We report these leaks and breaks in the gymnasium at the earliest possible moment so that damage can be held to a minimum.

Sincerely yours,

Director of Physical Education,
Varsity Basketball Coach.

FCA:MF

Mr. C. G. Bayles
Building & Grounds
University of Kansas

Dear Mr. Bayles:

It is necessary for us to cleat the baskets
in the Navy V-12 Basket Room. Mr. Imel, your carpenter,
looked into this and we should like to have the following
material.

35 ft. 1 x 12
400 Pcs. 1-1/4 x 12
400 Screw Eyes

Will you please see that this project gets done
and charge it to the Department of Physical Education.

Sincerely yours,

Forrest C. Allen
Director, Physical Education
Varsity Basketball Coach

FCA:med

For clearing Baskets
in Navy V-12 Basket
Room

35 ft x 12
400 Br $1\frac{1}{4}$ x 12
400 screw eyes

August 3, 1945

Mr. C. G. Bayles, Superintendent
Buildings and Grounds
Campus

Dear Mr. Bayles:

In my office on the south side a window pane was put in but the painters did not paint over the glass to shut out the glare. These are the arched windows above the regular window. The sun's glare on the south is very difficult to face and I will appreciate it if you will paint this one window for me. Thank you so much.

Sincerely,

Forrest C. Allen
Director, Physical Education
Varsity Basketball Coach

FCA:ef

June 30, 1945.

Mr. C. G. Bayles, Supt.,
Buildings and Grounds,
University of Kansas.

Dear Mr. Bayles:

I am confirming my phone conversation regarding the leaks in my office, which is in the southwest corner of Robinson Gymnasium. The water fairly pours down from the conjoined margin of the ceiling and the west wall. I immediately supposed there was a window open in the Naval officers quarters directly above my office. I called Chief Gathings and he hurried over, but the room above was as dry as a bone.

Then I called you and you asked me to get the janitor. I got Ry Jackson and we made a thorough inspection of the K Room windows, and that room is utterly dry. Then we inspected the outside. The only way it appears to me that it would come in is through the ledge above the windows in the officers quarters at the southwest corner of the building. Rain is admitted from above, not the eaves, but the ledge above the windows. I would say, conservatively, two gallons of water came in my office. I have ten towels and they are seeping wet.

The water strikes the baseboard as it drips from the molding on the wall which is set in one foot from the window. It also splashes against the radiator which is a 6-inch inset from the window ledge, and then it splashes over on my desk and spoils a lot of correspondence and books on my desk, which is two feet from the radiator.

The south windows of my room leak enough to admit water, but the glass air ventilators in a way protect it from coming in on the sill. But an equally bad situation is on the south windows in the long room just to my left. These two south windows lead water from the top, which convinces me that the same situation exists in those south windows that exists in the windows above the officers quarters. The used towels which the men in physical education and officers use are piled high on a locker. We use those to sop up the water during and after a rain.

Also, the windows on the west side in our front office, where Henry Shenk, Reg Strait and Ray Kanehl are, leak from the bottom enough so that it is necessary to put three or four towels on the ledges or else the water will stand there in pools. Even though the windows are closed tight and locked, the water still runs in, in great quantities.

I have just checked again with Ry Jackson to be sure that every one of these statements are not exaggerated.

Now for the top of the gymnasium. There are eight or ten very bad leaks on the main gymnasium floor. In my hasty examination I knew that it was raining in, but we can do nothing about that. Ry Jackson said there are gallons of water now standing on the gym floor. Even with a small rain, water drips through on the floor which makes it very hazardous to the men participating. We will have a big contingent of Navy men, as we have had before, and with our varsity basketball practice it presents a very difficulty situation.

I have intended for two months to write the letter about the gymnasium floor, but having lost some books and other valuable papers from this rain on my window ledge, I am moved to write you this appealing epistle.

Very cordially yours,

Director of Physical Education,
Varsity Basketball Coach.

FCA:AH

THE UNIVERSITY OF KANSAS
LAWRENCE

DEPARTMENT OF BUILDINGS AND GROUNDS
C. G. BAYLES, SUPERINTENDENT

April 3, 1945

Dept. of Physical Education
Robinson Gym

Gentlemen:

In order to avoid delays and inconvenience both to you and to this department when hot weather arrives, may I suggest that you have all your fans reconditioned during the next two months.

Replacement and repair parts for any electrical equipment are very hard to secure and long delays can be expected on deliveries.

Your cooperation will be appreciated and reasonably prompt service can be given upon receipt of your departmental order.

Very truly yours,



C. G. Bayles, Supt.
Dept. of Bldg. & Grounds

4
CGB/pr

February 20, 1945.

Mr. C. G. Bayles, Superintendent,
Buildings and Grounds.

Dear Mr. Bayles:

Your men have done a swell job on the re-surfacing of the steps at the west entrance to the gymnasium, but there are two steps and the riser or platform yet to be chiseled. When this job is finished it will be a great improvement in the safety of the steps.

One other suggestion: There are no electrical outlets in rooms 203 and 206 in the gymnasium, and many times we desire to set up a projector for pictures in these classrooms. It is then necessary to run an extension cord to the K-Room or some other place to plug it in. We would greatly appreciate it if you can have outlets put in these two classrooms.

Very sincerely yours,

Director of Physical Education,
Varsity Basketball Coach.

FCA:AH

January 31, 1945.

Mr. C. G. Bayles, Superintendent,
Buildings and Grounds,
University of Kansas.

Dear C. G.:

On January 22nd the Chancellor mailed to all department heads a mimeographed letter saying that "in order to assure maximum sanitary conditions in all departments of the University and in all aspects of its activities, I have asked Mr. Paul Haney to serve as University Sanitary Officer, with authority to inspect any part of the plant at any time and to make such recommendations and take such action as may be necessary in the interests of proper sanitary standards on the campus."

In our basement of Robinson Gymnasium there is undoubtedly a very bad leak of sewer gas. The major portion of that escaping gas comes from a drain, I believe, near the center of the gymnasium. I have noticed this for years and sometimes have confused it with the urinals. But undoubtedly this is not the case. Sewer gas is escaping, and some days it is unbearable. At other times it is hardly noticeable.

I would appreciate a study of this situation at your earliest convenience.

Very sincerely yours,

Director of Physical Education,
Varsity Basketball Coach.

FCA:AH

cc - Chancellor Malott
Mr. Paul D. Haney

THE UNIVERSITY OF KANSAS
Lawrence

Office of
the Chancellor

January 22, 1945

TO ALL DEPARTMENT HEADS:

In order to assure maximum sanitary conditions in all departments of the University and in all aspects of its activities, I have asked Mr. Paul Haney to serve as University Sanitary Officer, with authority to inspect any part of the plant at any time and to make such recommendations and take such action as may be necessary in the interests of proper sanitary standards on the campus.

To assist and advise with him I am appointing an advisory committee on Campus Sanitation of the following members:

Dr. Sherwood
Dr. Canuteson
Dean Werner
Dean Jones
Mr. C. G. Bayles

Some departments are not involved in the problem to any great degree of course. Others are vitally concerned. If and when Mr. Haney or any member of his advisory committee should get in touch with you in connection with any problem under the committee's jurisdiction, I should appreciate very much your cooperation and help in order that we may all work together in assuring proper safety and health standards.

Sincerely yours,

DEANE W. MALOTT
Chancellor

January 17, 1945.

Mr. C. G. Bayles, Supt.,
Buildings and Grounds,
University of Kansas.

Dear Mr. Bayles:

The front steps to the west entrance of Robinson Gymnasium have become so worn by the footsteps of time that whenever a rain or snow comes with a freeze it makes these steps treacherous and very, very dangerous. While I ask the janitor to use sand at every opportunity, yet there are times that this is not possible, and I fear for the severe injury that may come to some of the people using them in those dangerous times.

The water does not drain off due to the depression wear. Therefore, I believe the only thing that can help these steps would be a chipping or roughing up of the surface so that it would render them less hazardous.

In descending these steps when any ice is on them it is impossible for anyone to get a foothold, and since the steps are wide and there is no railing that a person could hold on to, the hazard is double.

I have been expecting to speak to you about this for over a year, so I know of no better time than now to urge your inspection of this hazard.

Very sincerely yours,

Director of Physical Education,
Varsity Basketball Coach.

FCA:AH

P.S. Here is another item: the floor under the drinking fountain at the west end of the gymnasium is giving away. The fountain is tipped to one side and I am afraid it may go through the floor. The floor there needs some repair.

F.C.A.