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In this issue:

Dr. Myra Ellen Jenkins writes a tribute to John Gaw Meem, FAIA, who died in August at the age of 88. In addition Peggy Pond Church has dedicated a poem to John Meem.

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Beginning on page 9, the potential for a **Soft Bathroom,** which is both safe and sanitary, is explored by Armand and Barbara Winfield. The authors not only developed the process for construction but built one for a satisfied client. Rightly, they wonder why the system is not commonly used. Serious accidents happen frequently in the slick, hard surfaced environment of a bathroom. The Winfield's propose a solution.

John P. Conron, Editor

(Cover—Zimmerman Library—U.N.M.—John Gaw Meem, Architect.)

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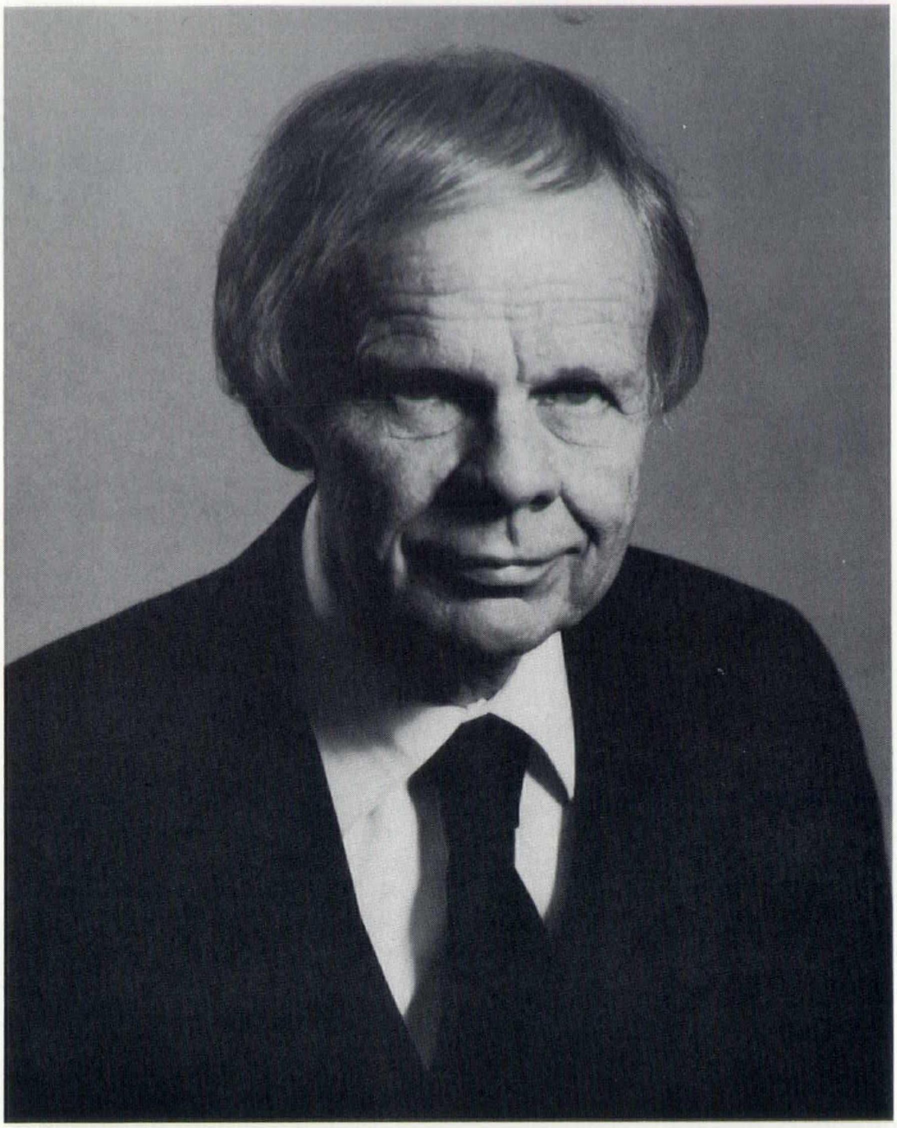
Jason P. Moore, AIA Honored



At a dinner celebration in the Sheraton Old Town Hotel in Albuquerque on May 13, 1983, Jason P. Moore, AIA was presented with the Albuquerque Chapter, American Institute of Architects **Professional Award** for 1983. The citation recognizes Jason's "Consistent Quality of Professional Practice" for the many years that he has worked in the profession of architecture in New Mexico.

Moore graduated from the University of Texas, Austin. He formed a partnership, now grown into Flatow, Moore, Bryan & Associates, with Max Flatow in 1948. Among the many buildings for which Jason Moore can take credit and claim pride are the Sims Building (1952), for which he shares the design credit with partner Max Flatow; The Bernalillo County Medical Center on which he worked for a period of years (1964 to 1978); the Anna Kaseman Hospital (1972) and the recent addition to the Albuquerque Indian Hospital (1982). (The Spring, 1983 issue of **MASS** carried a review of the addition to the Albuquerque Indian Hospital, written by Regan Young.)

New ProFile Edition Includes AIA Membership Directory

Archimedia announces publication of **ProFile '83**, The Official Directory of The American Institute of Architects. This is the third and completely new edition of the directory, which, under the editorship of Henry W. Schirmer, FAIA, has become a standard reference of the profession in the five years since it first saw print.

The new 9" X 12" volume with 1325 pages is almost twice the size of earlier editions and incorporates many new features. Among them are the complete roster — all 40,325 members and addresses — of The American Institute of Architects; short entries on 5,500 previously unlisted firms, bringing the total number of firm entries close to 14,000; and a softcover format designed for updating in annual editions. These changes are reflected in a change of the subtitle to "Official Directory of the AIA".

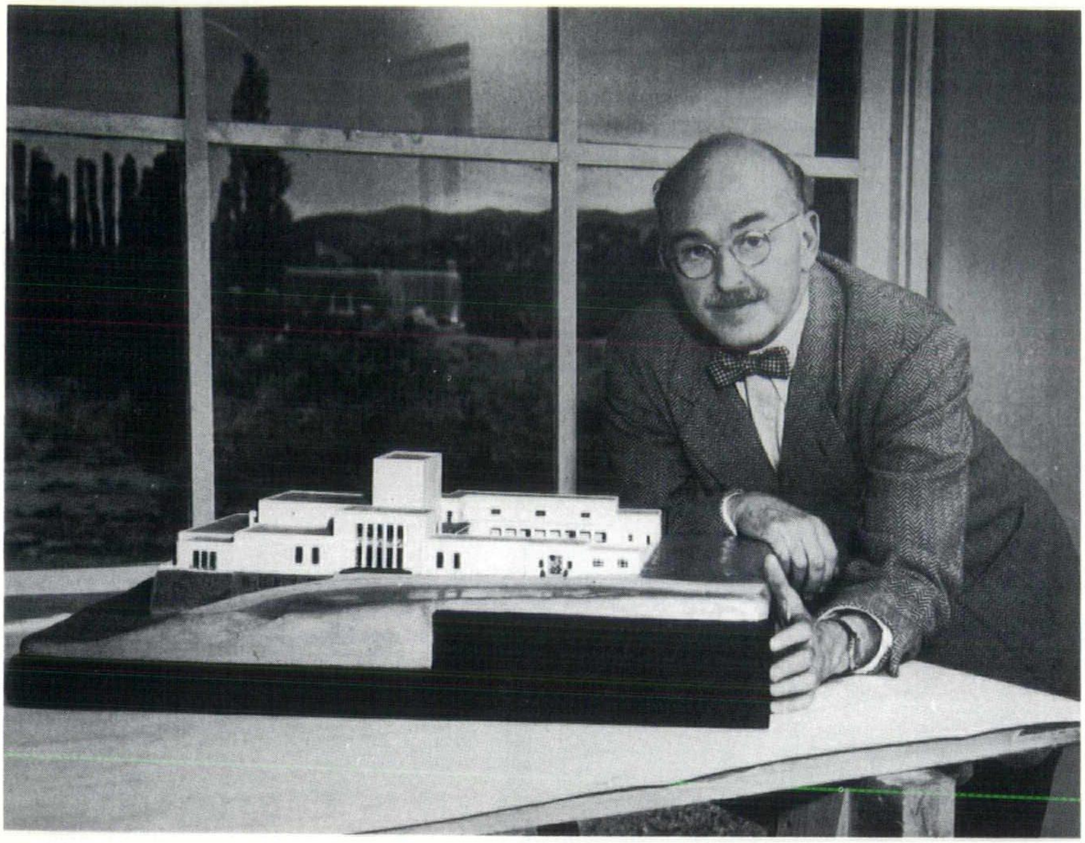
Unchanged is the format that lists 8,200 architectural firms by state and city and presents current information about the names and roles of their principals, their staff organization, volume and type of work, and design awards. ProFile '83 also carries current information on the AIA organization and AIA officers.

ProFile is widely used by clients seeking design services, by design firms considering associations and joint ventures, by marketers analyzing the marketplace, by public officials responsible for contracting design services, and by students and professionals investigating career opportunities.

Listed at $86 in softcover (and at $100 for a hardcover library edition), ProFile '83 may be ordered through bookstores or by mail directly from Archimedia, P.O. Box 4403, Topeka, Kansas 66604.

For further information contact Carla D. Nissen, Archimedia, 3715 S.W. 29th Street, Topeka, Kansas 66614. (913) 273-1361.

John Gaw Meem, FAIA, Dead at 88



John Gaw Meem with a model of the Colorado Springs Fine Arts Center. Photograph taken in 1934 by Santa Fe Photographer Tyler Dingee. (Museum of New Mexico Collections.)

Myra Ellen Jenkins presented this eulogy to John Gaw Meem at his funeral services held in the Holy Faith Episcopal Church, Santa Fe, August 8, 1983.

Peggy Pond Church read the poem which she has dedicated to John Meem.

Other prominent citizens participated in honoring one of Santa Fe, New Mexico's, most respected architects.

John Gaw Meem was a young newcomer to Santa Fe following World War I to recover his health under the skillful care of Dr. Harry Mera at Sunmount Sanitarium. While there, his conviction grew that New Mexico, and Santa Fe in particular, had been bequeathed a great patrimony of cultural wealth from the age-old Pueblo Indian civilization and Hispanic Colonial society, especially in its architecture and in the settlement pattern of its ancient capital and villages. His entire life, and that of his companion, Faith, was permeated with a personal sense of trust obligation to that patrimony.

He was the pioneer, patient and persuasive, of the historic preservation movement in New Mexico long before historic preservation came to be regarded as a national responsibility. In the early 1920's he was the guiding force behind the Committee for the Preservation and Restoration of New Mexico Churches, providing the quiet eloquence which raised funds for the restoration and stabilization of several Colonial mission churches and the purchase of the Sanctuario del Potrero de Chimayo from private ownership and the donation of this gem to the Archdiocese of Santa Fe. In 1926 he was one of the founders of the Old Santa Fe

Association, organized to preserve the historic fabric and the unique character of Santa Fe. In 1960, with Faith, he was a leader in the establishment of the Historic Santa Fe Foundation to serve in a trust capacity to acquire and save endangered properties. The Pinckney R. Tully House, the Delgado Building and El Zaguan are now owned by the Foundation, thanks to the civic generosity of John and Faith. St. John's College, the Santa Fe Preparatory School, and who knows how many other institutions were made possible by the Meems.

His own contribution consists in the scores of buildings which he designed throughout the region, and especially here in Santa Fe: graceful homes which became part of the landscape and complemented, but never assaulted it; public buildings, hospitals, schools and university structures, sensitive to historical tradition, but also truly utilitarian. But this public-minded, gentle, gifted man was also a person of steadfast faith. Not only did he labor to restore the Colonial churches, but some of his best buildings were those for worship. It was no accident that in 1939 Archbishop Gerken commissioned him to design Cristo Rey as a fitting edifice to house the priceless treasure of the great 1760 reredos. Churches were reverently planned for other parishes and denominations, from Santa Maria de Acoma at McCarty's to the First Presbyterian Church in Taos. To those of us within this Household of the Faith, John Gaw Meem, son of an Episcopal missionary priest to Brazil, has left his own special legacy. Our St. John's Cathedral in Albuquerque is part of it. To this simple stone church, built in 1882, he added Palen Hall and the cloister to the east in the late 1920's. The chancel-sanctuary in which I am standing was designed by John in 1953 in the best of historic preservation philosophy. The building was expanded, as was necessary, but its integrity was faithfully preserved, both the integrity of the original 1882 structure and of the addition. Thus, John has increased our particular patrimony - one which we gratefully and freely share with this community of which he was premier citizen for so many years.

I read to you the official release by the Honorable Toney Anaya, Governor of New Mexico: "Santa Fe — August 8 — Governor Toney Anaya has ordered that all flags state-wide be lowered to half staff today to mourn the death of prominent New Mexico architect and Santa Fe resident John Gaw Meem."

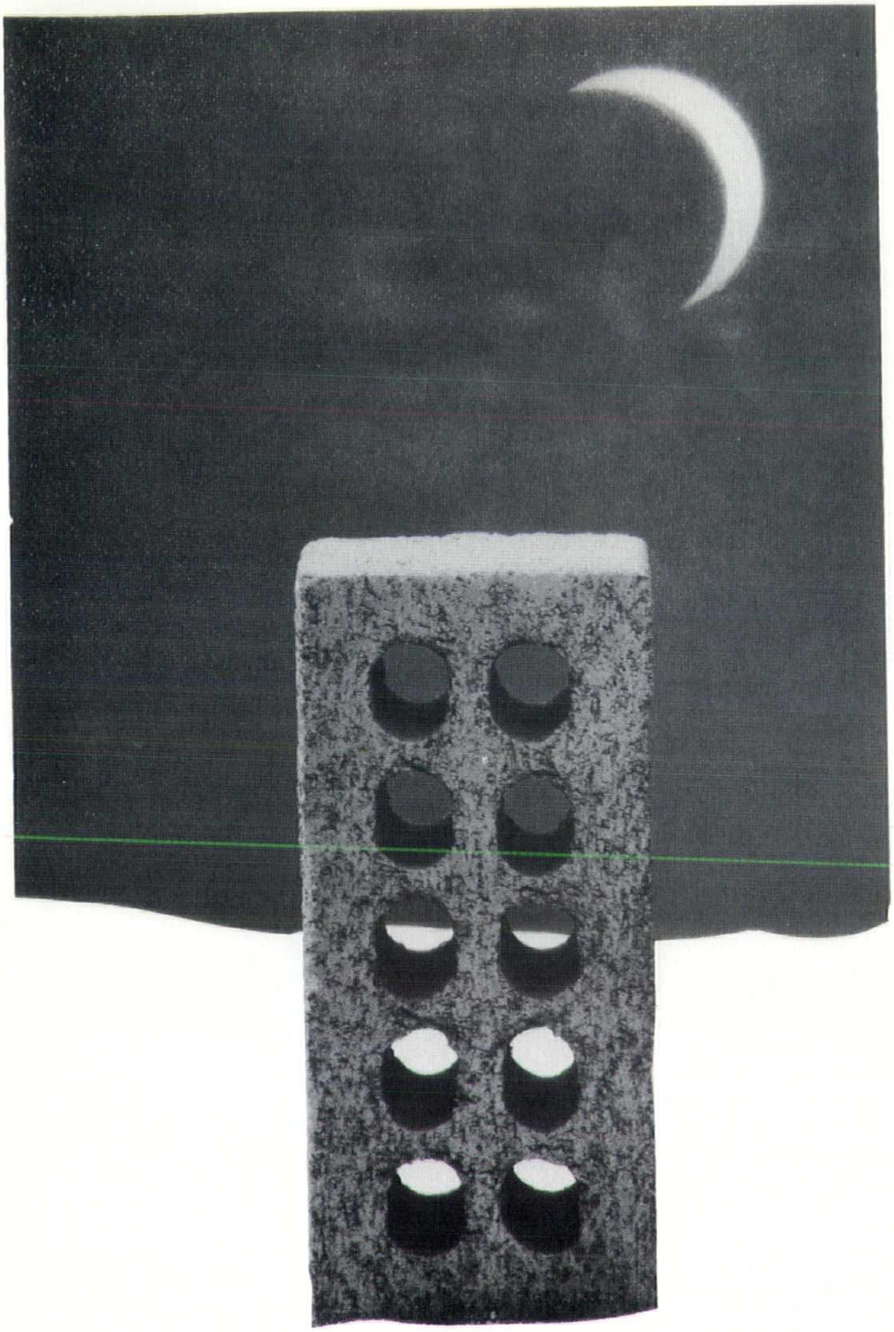
Myra Ellen Jenkins

THE AGED MAN

The aged man sang in my dream.
I heard him sing
love of his long years,
love of the bright flame
that blazed up and consumed
his life's last remnant.
I heard the gathered song
pour from his wasted frame
and fill the room
and echo in the caverns of my heart.
Music became a fire
that fed itself on every mortal part
like flame on knotted wood.
How could an aged man find strength to sing
approaching his life's end?
In dream I went to him and knelt
and laid my face between his knees and wept
while that music rose within me like a sea
and my own heart grew resonant with fire.

for John Gaw Meem

Peggy Pond Church
October 1982



THE SOFT BATHROOM POTENTIAL

by Armand G. Winfield and
Barbara L. Winfield

Introduction

Bathroom accidents are a common household danger and many persons are seriously injured or killed annually in this way.

In the early 1970's our company was retained by a client whose fear of such accidents prompted him to seek out viable solutions. He had spent almost a decade in vain searching for suitable materials which would satisfy his needs - and for companies who would undertake this type of development.

Feasibility

The first phase of our work was a materials feasibility study to determine whether any cellular or elastomeric plastics materials would absorb the necessary energy needed to keep a heavy person from injury in a fall.

It is know that numerous objects in homes, offices, factories, et cetera which, because of their locations and/or inherent hardness, create safety hazards when there is a high impact collision between the object and a part of the human body. Collisions of this nature, usually caused by slipping or falling, are magnified in the elderly and/or infirm. They are also highly prevalent in areas where slippage from water accentuates the problem: around swimming pools or in bathrooms.

Our first task was to locate one or more of these cellular or elastomeric plastics materials which would have the energy absorptive characteristics necessary to protect the body from impact with sharp as well as with flat surfaces since a typical bathroom contains knobs, towel bars and furniture as well as the coverings to the tub and sink, water closet, numerous walls, doors and floors - all usually made of fired ceramics, hard wood or metal. Not only would the plastics material have to be impact resistant, it would also have to be water resistant, non-water absorbing, easy to fabricate and finish and economically feasible for production.

A number of flexible cellular and elastomeric plastics materials were brought to our laboratory on Long Island, New York for evaluation including those of flexible polyurethane foam, flexible polyethylene and polypropylene and ionomeric foams. All were collected in a wide range of densities and cell constructions.

Initial screening tests were conducted. We stood on the sample. If it sunk under our weight throwing us off balance, it was eliminated. The material could not be collapsible to the extent of permitting a portion of the body to collide with an underlying rigid, non-impact absorbing surface. Likewise, if the material was too hard, it was also eliminated. A secondary simple test using our own fists was to punch a sample which was mounted to a piece of plywood. If it hurt our knuckles, it was eliminated.

The problem became more complex as ideal requirements demanded a surface which would be easy to clean and maintain, which would be slip resistant, dent resistant, have good recovery characteristics and, at the same time, would be both aesthetically pleasing to sight and touch alike. This surface would also need to be capable of accepting an exterior coating without causing undue problems.

From this preliminary inspection and simple testing of readily available cellular and elastomeric plastics materials the final materials chosen for more conclusive and comprehensive testing were those that potentially satisfied our client's architect[1] assigned to the project for design and aesthetics.

It was decided:

a) That the chosen material would provide an energy absorptive layer capable of sustaining the entire weight of a large man - and insure him against injury at the ultimate point of contact from a fall.

b) That the chosen material would provide a surface which could either be applied to already existing bathroom furniture - or could be fabricated into same.

c) That the chosen material would not only incorporate these physical characteristics but would also be capable of attaining the visual aspects of a pristine and sanitary pure white[2] surface which could be maintained by untrained personnel without special equipment or special cleaning agents.

Evaluation

To find the exact material(s) providing impact absorbing qualities coupled with all of the other desirable features listed presented a formidable task. Early in the evaluation, several facts were established:

a) In all probability, a composite-laminate would be required to satisfy all of the properties and characteristics required in the finished product.

b) The ultimate surface must be aesthetically pleasing to human contact as it is a matter of personal aesthetics as one sits in a tub or stands in a shower.

c) The exterior surfaces must be continuous and flexible as well as substantially water resistant and water impermeable.

d) A rigid backing layer would be desirable in order to fabricate the flexible energy absorptive material and to maintain its shape and dimensional integrity during fabrication and installation.

Two materials were ultimately isolated as having the best potentials for this project: an extruded expanded polyethylene foam product produced by Dow

Chemical Company as "Ethafoam" and an expanded polypropylene foam produced by Haskon Incorporated as "Minicel". "Ethafoam" could be made available in 2, 4, 6 and 9 lb. densities, although at that time little of the higher density materials were available beyond their laboratories or their pilot plants - and even less was available in documented practical or field experience with these higher density foams. "Minicel" was available in only 3 and 5 lb. densities.

"Ethafoam" could be obtained in extruded irregular logs approximately 2¼" thick, 18" wide and cut off to 108" lengths, while "Minicel" was available sliced in-plant to any reasonable thickness but limited in sheet size to approximately 30" X 60" slabs.

The Dow Chemical Company had already established the ¼" to ½" "Ethafoam" was sufficient to meet the safety requirements for automobile crash pads - and Haskon Incorporated was using 1/8" sections of "Minicel" for motorcycle crash helmet linings. We ascertained that 1" of either material would more than compensate for any fall of a large person (in excess of 200 lbs.) but the architect, for additional safety - and for aesthetics - increased this dimension to 1½" in the areas surrounding the tub and the shower stall. Wall and floor areas in the other parts of the environment were to be 1" thick - but in inaccessible areas it could be even thinner.

Both "Ethafoam" and "Minicel" could support a heavy person without his loss of balance. They were comfortable materials wet or dry and could be fabricated by a multiplicity of techniques - many of which we developed during this project.

Testing

Early tests had indicated that low density cellular plastics did not provide good walking surfaces and were ruled out. In the heavier density materials the determination of whether a given cellular material is sufficiently impact absorbing for this application can be determined by measuring the dynamic cushioning characteristics of the foam following the test procedures outlined in MIL-C-26861A (USAF). Applying this test, useful foams have a peak deacceleration of between about 35 and 80 G's (32 feet/sec./sec.), and preferably 40 to 50 G's, at a static stress of about 1.0 p.s.i. on a sample having a thickness of about 2" and employing a drop height of about 24".

The heavier density "Ethafoams", as previously stated, were still in pilot production during this evaluation period, but we were able to obtain samples of 4, 6 and 9 lb. densities. There was no problem in obtaining the 3 and 5 lb. density "Minicels".

In accordance with the testing procedures noted, the ultimately chosen materials should also have good memory and at least 85% - preferably 100% -recovery of their full height. Foams were isolated which, after 50% compression for a period of 22 hours at room temperature, recover at least 85% to 88% after 100 hours - or, stated another way, these foams should have a "compression set" of less than 15% and preferably less than 12%.

Further, when the foams were to be used as flooring, in order to provide surfaces comparatively unyielding to compressive forces, foams which have less than 25% deflection when subjected to a compressive strength of about 10 p.s.i. and preferably less than 25% deflection when subjected to a compressive strength of 13 p.s.i. were sought.

Selection

Of all the foams tested and evaluated, polyethylene foams chosen from the 2 to 9 lb. density range, polypropylene foams chosen from the 3 to 5 lb. density range and a newcomer: ionomeric foams in the 3 lb. density range were chosen for the first prototypes.

Samples of 4, 6 and 9 lb. "Ethafoam" and 3 and 5 lb. "Minicel" were fabricated as small tanks. Various surface finishes were applied. Preliminary tests were conducted by scouring the surfaces with a wide variety of common household detergents and cleansers. The tanks were filled with water to check for leaks. Walking tests in the water filled and in dry tanks by architect and client narrowed the field even more: 6 lb. density polyethylene foam would be used for the floor areas of the tub and shower stall and 4 lb. density materials would be used in all other areas. An alternate, however, in "the other areas" would be the 3 lb. density polypropylene foam. In order to prove the feasibility of both materials we compromised by using the "Minicel" for all floors and all walls except those in the shower stall and tub enclosure. It was also used to cover the top and tank of the water closet and an even thinner sheet of it was used to wrap the exposed grab bars. All other fixtures would be recessed. Rounded corners used for the architecturally aesthetic configurations of the shower stall and vanity areas would be fabricated from 4 lb. density polyethylene foam logs which Dow had extruded in this material for boat bumpers. "Ethafoam" had excellent memory - and proved to be a wise choice on exposed surfaces.

Since the polyolefin[3] foams chosen were new products, their respective manufacturers had little information to offer regarding fabrication and finishing -and we had to develop complete systems during the full scale prototype development. After the small tests and models were accepted by client and architect, our client ordered a full scale Soft Bathroom environment architected to a pristine white surfaced installation approximately 10' X 14' overall and including tub and tub enclosure, shower stall, vanity area, water closet area and general walk around space. **Everything** in the environment except the ceiling and the hidden plumbing would be "soft"!

The initial phases described above: Feasibility, Evaluation, Testing and Selection took six intensive months to complete.

Prototype Development

The full scale prototype took even longer. As stated earlier, "Ethafoam" logs were delivered in buns 2¼" and thick ± ¼", 18" wide and 108" long. The uneven exterior skin had to be removed in order to prepare boards in the desired thicknesses needed for fabrication. No one at Dow Chemical Company or among their customers had any practical experience cutting the heavier density polyolefins. Our only clue was that

hot wire cutting had been successful in the lower density materials. We were forced to design and build special hot wire equipment capable of skinning both surfaces of the bun simultaneously and accurately.

We did, however, in the skinning process, develop a surface ripple which became more prominent as the densities increased. Later refinements in the hot wire apparatus minimized this phenomenon. Further development work on the machine provided many freedoms in hot wire cutting intricate profiles. An adaption to the machine also provided us with a portable version capable of making complicated and interesting cuts. Other techniques developed included hot air and open flame welding for seams and section joining. Sanding, texturing and filleting techniques together with surface finishing and coating had to also be developed.

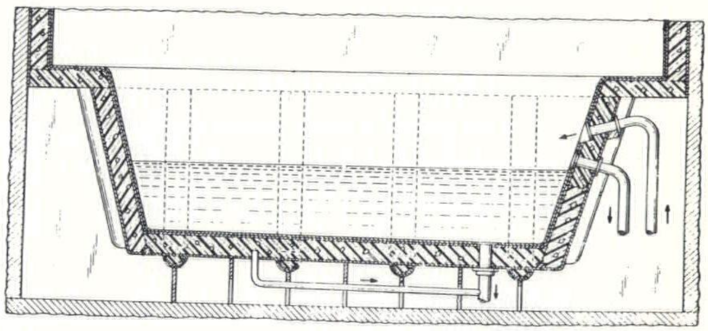
The original Soft Bathroom was planned to allow the prefabrication of the energy absorptive foams. However, in order to rigidize sections, we cemented them to precut and patterned sheets of .062" glass fiber reinforced polyesters (FRP)[4] - and to do this, we had to locate and test a wide range of industrial cements and adhesives as it is extremely difficult to cement the polyolefins. We ultimately narrowed our choice to a special 3M[5] industrial contact cement. It was tenacious, easy to handle and dimensionally stable. in the tub, however, as well as in the other areas where the configurations were complex rather than flat or simple, hand lay-up[6] reinforced polyesters had to be tailored around these configurations as backup support. The tub in particular needed backup support to keep its walls from buckling under the weight of a full tub of water. The tub in this installation was oversized: 24" wide, 20" deep and 72" long - and filled it held a ton of water.

Fabrication of the tub, water closet and vanity areas as well as in the matching of wall panels showed up many seams, joints and other irregularities as well as those caused by the tolerance differences from foam board to foam board. The combination of these imperfections presented a surface which would preclude the pristine surface detailed by the architect. A solution to this problem was needed.

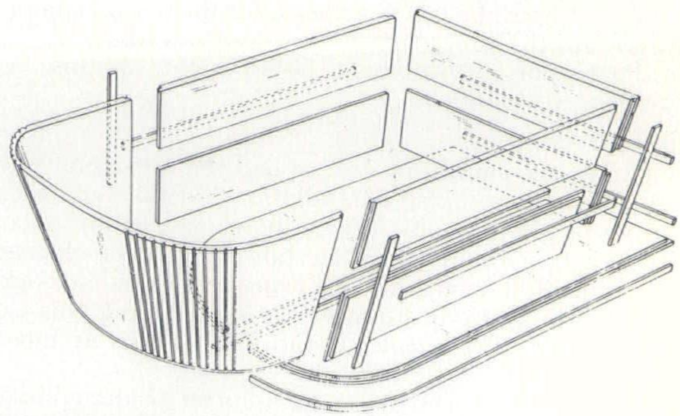
We had earlier examined ionomeric foams during the latter stages of the materials feasibility studies but it was limited in thickness to approximately 1/8" by its producers. However, it was compatible to the other foams and did not seem to present a problem if laid over them. A small sample of the ionomeric foam was contact cemented to the irregular seam pattern of a test section and shown to the architect. If it could be neatly cemented to large surface areas minimizing its own seams, it would be an acceptable solution.

The ionomeric foam chosen for this project was The Gilman Corporation's "Softlite" which is made using Du Pont's "Surlyn". It was available to us in rolls 1/8" thick, 60" wide and indeterminent lengths. We needed it flat as the curl from a roll would cause us problems, so Gilman prepared sheets for us 60" wide by lengths of 8' and 10' respectively and shipped them to us flat.

Interior of Tub during Prototype Construction prior to filleting with acrylics putty - and skinning - showing FRP back-up supports.



Diagrammatic Drawing of the Tub showing the relationships of the acrylics skin, "Ethafoam" and FRP back-up supports - and details of the plumbing. Note that the water intake and overflow fixtures are flush with the interior of the Tub as is the drain. Below the Tub are the weep holes which lead into the drain.



Diagrammatic Drawing of Tub configuration showing plan for fabrication of the "Ethafoam" planks.

Our contact cements were brushed on one side of the "Softlite" and on the surface to be covered. Both surfaces were left to dry for at least 24 hours. Now, almost completely tack-free, they were easier to handle. By a complicated system of prepatterning and overlaying, we were able to cover wide expanses by this technique with almost invisible seams. This technique was used in all areas of the Soft Bathroom with the exception of the floor and the interior of the tub. The floor was carpeted over the "Minicel". The tub, because of its concave configuration, had to be filled and filleted with a specially formulated acrylics putty which we developed for this application. The voids and irregularities in the tub were finalized by this technique which preserved the aesthetic continuity despite the plumbing fixtures.

Both the polyethylene and the polypropylene foams exhibit good tensile strength and dimensional stability, but, since olefins and ionomers are neither attacked by most solvents or chemicals, this presented a problem in coating these materials. A primer was finally located which would serve as a "tie-coat" between the olefin surface and the liquid-applied vinyl skin which had been originally planned as the decorative exterior surface. Eventually, however, the vinyl surfaces were ruled out in favor of acrylics since this type coating precluded a primer, minimized surface imperfections, eliminated toxic odors and provided a better overall appearance.

Many parts of this soft environment utilized highly complex and sophisticated fabrication techniques including combinations of several at a time. The tub required special attention because of the water load and difficult plumbing. It was necessary to thread pipes through the soft layers of foam and through the hard reinforced lay-ups without leaks developing. It was found desirable to provide weep holes in the under tub and under shower areas to preclude wet rot, mildew or even odor problems.

Many small areas, also needing the ionomeric foam covering, were the energy absorptive knobs, water faucets, water closet seat and tank cover, grab bars, towel rack and any protrusion that was impractical to recess.

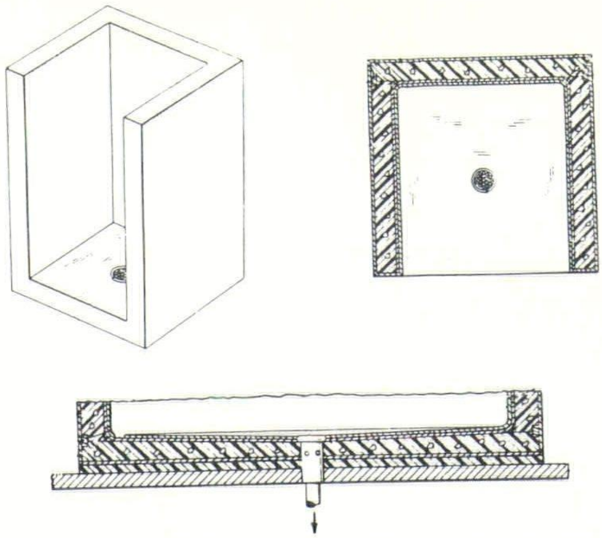
Knotted nylon ropes were fastened to the ceiling over the tub area and were left hanging free at the outer edge of the tub as an assist for the person emerging from the tub.

Prototype development lasted eight months including installation.

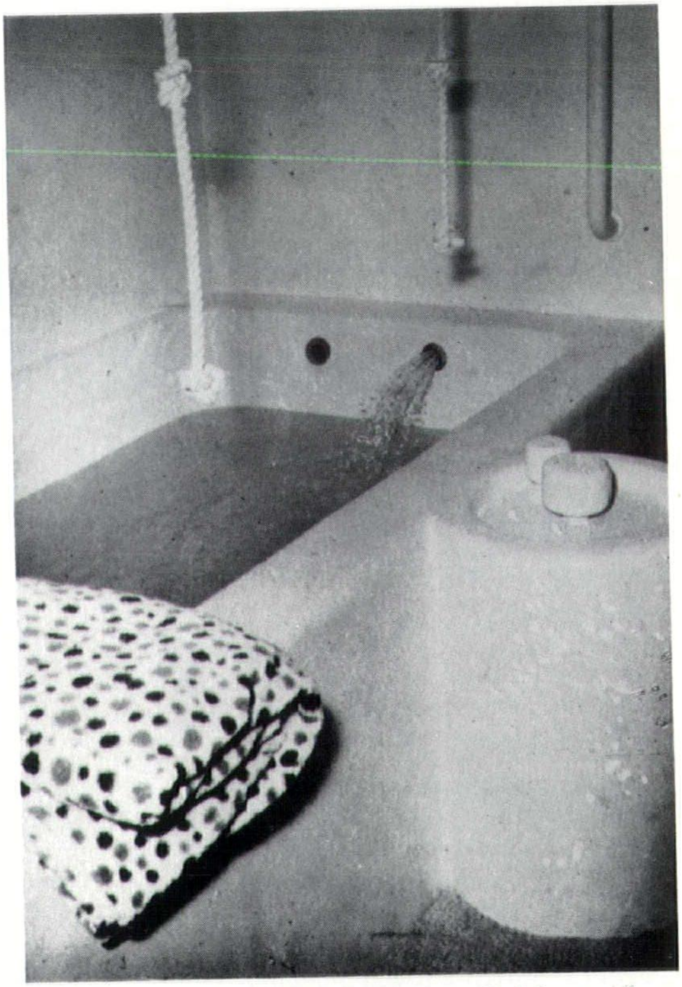
Post Testing

After six months of use we had the opportunity to examine the completed installation in detail and took a series of photographs. To our knowledge, no faults had shown up. The tub and the shower had been cleaned with normal detergents. We even gave the tub a scouring with a strong abrasive cleanser during this examination. The client was satisfied and the architect was pleased.

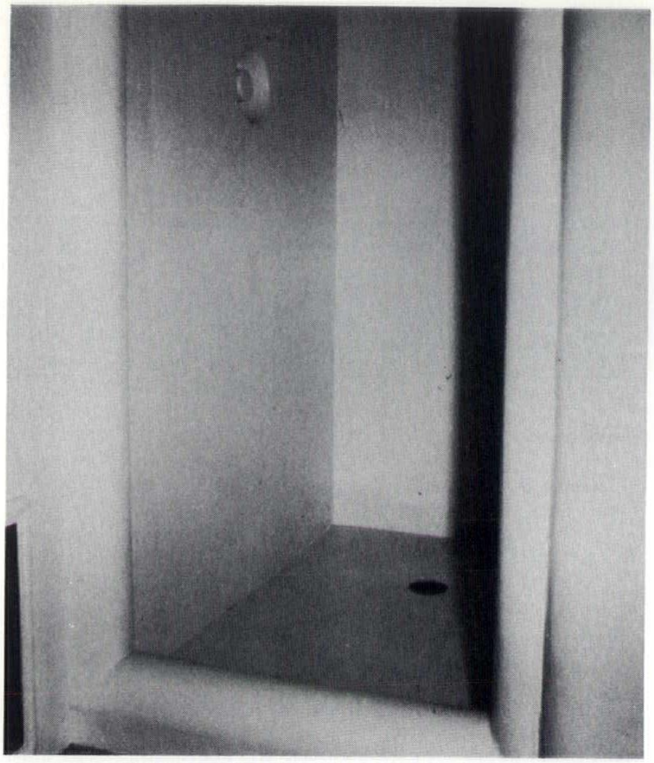
We have checked this installation on an annual basis through 1979 when we moved our business to Santa Fe, New Mexico. Only minor cracks or pin holes have



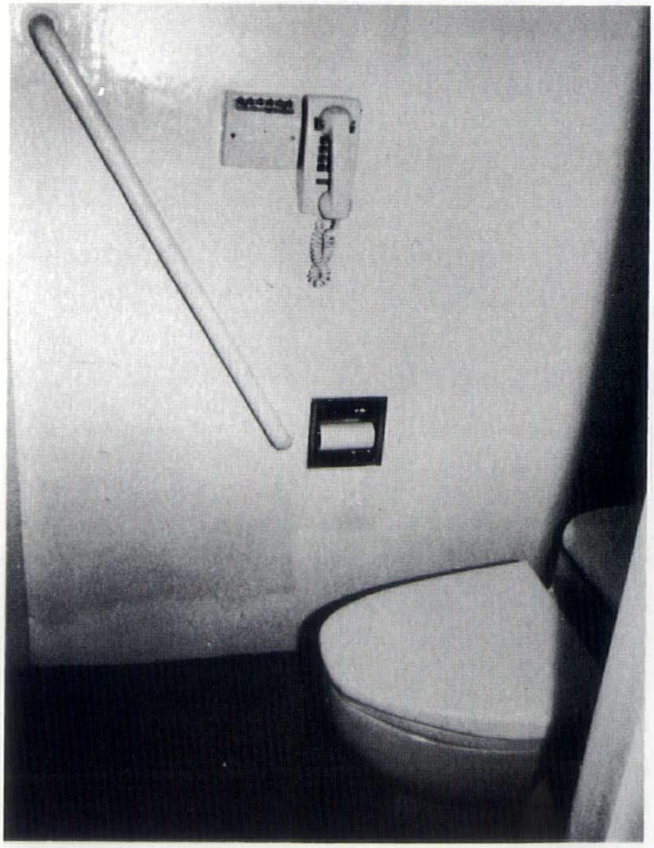
Diagrammatic Drawings of Shower Stall Construction showing relationships of skins, foam and back-up supports - and detailing plumbing and drain systems.



Completed Tub showing flow of water in from flush faucet. All controls for the Tub are operated from the round console to the right of the Tub. Note the Grab Bar on the wall at the right - and the suspended knotted nylon ropes for assisting bather to get in and out of Tub.



Completed Shower Stall showing recessed controls. Shower head is above a tall persons' height so no danger exists. Note fabrication of rounded moldings at front of stall. A recessed forced air heater shows in part at the lower left - outside the Shower Stall.



Completed Water Closet area with recessed toilet paper holder and energy absorptive Grab Bar. Telephone was an after thought by client and is neither recessed nor "soft".

appeared in the surface. We have provided our client with a maintenance program to preclude even these.

Soft Bathroom Conclusions

The Soft Bathroom is a magnificent humanitarian concept - and an important contribution by our client to the medical, geriatric and general safety fields - a tribute to both client and architect. It provides an environment that is functional, practical, economical and pristine in its simplicity of line. It has extensive and widespread implications much too important to judge at this time - or for a long time to come. We wrote the Patents for our client: Impact Absorbing Laminate and Articles Fabricated Therefrom, United States Patent 3,816,234, June 11, 1974, Armand Gordon Winfield, Inventor.

It is sad to note, however, that with all of the documentation and publicity that it received that no one has ever really become seriously interested in its potential. We know that its applications are numberless...that it can be used for persons with debilitating diseases such as muscular dystrophy, multiple schlerosis, polio, et cetera. We know that there is a need for such environments in hospitals, nursing homes, centers for the disabled and retarded - and there is a need for such safety environments in private homes as well, especially those where older persons reside.

Too many years have gone by and in this respect thousands of persons have been denied the safety and protection of the invention. It should be used. Over the intervening years, the foams have become more plentiful and less expensive. Almost every fabricator today can slice them without the painstaking efforts we encountered a decade ago. Our own techniques, too, for designing and fabricating these energy absorptive materials have also improved - and we are continually working on new developments and techniques in this field.

New Developments

We have made numerous spin-off products using our own techniques and designs which can be applied to many of the fields and areas described above.

In the late 1970's we were approached by a group interested in the protection of thoroughbred race horses in their stall, vans and even in the recovery areas of large animal hospitals. We spent another two years in developing our concepts further.

Working with the Large Animal Hospital at the University of Pennsylvania's Veterinary College at Kennet Square, Pennsylvania - and working with some of the world's leading animal orthopedic surgeons, we eventually developed a new product for this application.

In this case we used the heavier 9 lb. density polyethylene foams because of the weight of the horses - and other large animals (circus, zoo, et cetera). In order to achieve the abrasion resistance to the exterior foams - horse shoes being destructive to it - and to minimize residual odors from urine and feces, we had to replace the ionomeric skins with a more durable layer without effecting the energy absorptive qualities of the underlying foams.

The new skin developed is an ionomeric resin produced by E. I. Du Pont de Nemours & Co., Inc. under the trade name of "Surlyn". This material is applied hot to the foams and textured appropriately at the time of application. It can be done in any color. No cements or coatings are involved. The result is a new type laminate which served the purpose for which it was intended - but it also can be applied to the bathroom and other such applications. This development: Abrasion Resistant Impact Absorbent Animal Stall Floor and Wall Covering is covered by United States Patent 4,333,981, June 8, 1982, Armand G. Winfield and Barbara L. Winfield, Inventors.

Conclusions

The results of our research and development in this field are an ongoing process. Since the two patents have been issued, we have made a number of new developments which can be applied to future work and applications. These new developments can and should be used as should our past efforts.

We can now rehabilitate existing bathrooms in residential or in institutional settings or design (in tandem with an architect) and build new ones from inception. We can provide safe areas in hospitals, homes for the aged and infirm, in centers for the physically and mentally handicapped, in hotels and motels - as well as for the normal person who just wants a safe and comfortable environment in which to bathe. We can provide safety to public swimming pools, athletic centers....provide safety barriers for movie stunt men as we can disguise our products to resemble many things in nature or man-made materials. We can provide the fruits of our research in a wide variety of other applications utilizing these developments.

What we really need are creative architects who will take advantage of what we have to offer....who will pass the word to their clients....who will incorporate these concepts with their own and use them. Then -and only then - will these developments become realities.

A.G.W. - B.L.W.

Notes

1. Wm. F. Pederson & Associates, New York, New York, Anthony Marchese, Project Leader.
2. Although white was selected by the architect for this prototype any other color could have - or can - be substituted.
3. Polyolefins are a family of thermoplastics which include high and low density polyethylenes and polypropylenes.
4. FRP is an abbreviation for fiberglass reinforced polyesters which are sometimes referred to as just "fiberglass".
5. 3M is a shortened version of Minnesota Mining & Manufacturing Company.
6. Hand Lay-up is a method of molding room-temperature-curing thermosetting plastics (polyesters, epoxies, et cetera) in association with glass or other fiber reinforcements.

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