The Commonwealth of Massachusetts
STATE BOARD OF BUILDING REGULATIONS AND STANDARDS

CODEWORD

December, 1991

PELLET STOVES - AT ISSUE

With the high cost of sources of energy and the heating season upon us once again, many people are looking towards alternate or supplementary methods of providing warmth for themselves and their families. Passive wood stoves (devices that need to be manually stoked) have been a favorite over the years, both for their handsome appearance and for their cozy supply of heat.

The pellet stove has evolved from these earlier solid fuel burning models. Pellet stoves allow a person to fill a storage bin that is attached to the unit with fuel. The fuel (pellet) is then auger-fed to the burn chamber at a specific rate to keep the fire and heat roaring. This, of course, frees the person who would normally tend the fire to perform other tasks, such as sit back and enjoy the flame.

The December, 1990 issue of **CODEWORD** announced the approval of certain direct vent versions of a solid fuel burning device that uses **corn** as its source a fuel. Certainly, this is an innovative method for dealing with heating issues in terms of the environment (less destruction of trees) and in terms of the costs (of wood products).

Although many pellet stoves are fueled by wood products, they, too, can be operated with creative alternate sources such as corn kernels, rice coal or even walnut shells. (The type of stove would dictate the type of fuel.) However, with innovation sometimes comes problems, at least for regulators. All new ideas are subject to improvement as lessons are learned through operation. The test methods identified in the appendices of the building code are designed to help avoid expensive lessons. These tests are meant to challenge the operation of devices as they normally would perform when installed. The listing laboratory then labels the product to assure the buying public that some type of performance test was administered and the results were favorable. We all recognize the seal of Underwriters Laboratory (UL) as the most common marking.

When a new product such as the pellet stove is introduced to the market, testing becomes a problem. The standard tests for solid fuel burning appliances are intended to test passive devices, not actively-fed models. Although in some respects this may not be a great concern, it does raise at least one issue: how does the unit respond to negative pressure (not currently part of the required testing process). Thus, in the interest of public safety, the Board of Building Regulations and Standards has voted to take steps to address this matter. The following article details the path that the manufacturer, consumer and building official must take when selling or installing a pellet stove in the Commonwealth for the cited periods of time. In the future, proper testing may make much of this procedure unnecessary. Until such time, the following action is required.

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Approved by: Philmore Anderson III, State Purchasing Agent

PELLET STOVE BUILDING PERMIT REQUIREMENTS FOR THE FALL 1991/WINTER 1992 HEATING SEASON

NOTE: THE FOLLOWING INFORMATION IS ISSUED IN LIEU OF A MEMORANDUM DATED 12/13/91, SENT TO PELLET MANUFACTURERS SEEKING APPROVAL FOR SALE AND INSTALLATION OF PELLET APPLIANCES IN MASSACHUSETTS.

Pellet stoves/heaters/fireplace inserts are heating appliances that burn wood pellets, but may also be designed to burn rice coal, kernel corn, walnut shells, or other pelletized types of solid fuels. Such appliances typically possess numerous electro-mechanical devices that are subject to potential failure or abnormal operation. Because the existing Building Code requirements for solid fuel burning equipment did not anticipate pellet stove technology (the existing Code requirements - Section 3409 -were written some 10 to 15 years ago and were intended to deal largely with "passive", as opposed to electro-mechanically "active", solid fuel burning equipment), the State Board of Building Regulations and Standards (SBBRS) at it's December 10, 1991 meeting has approved an **"AFFIDAVIT PROGRAM"** for pellet appliances for the Fall 1991/Winter 1992 heating season.

In summary, each pellet appliance manufacturer must provide an affidavit to the SBBRS and to the manufacturer's sales representatives. To obtain the necessary building permit, the end-user shall provide to the local building department a copy of the affidavit referring to the specific pellet appliance which is to be installed.

Pellet appliances, in addition to being UL 1482 or ANSI/UL 737 labeled (which have been traditional requirements of the Building Code for all solid fuel burning appliances - Section 3409.2) will either:

a) have been tested to ULC S627 or ASTM draft standard E-91, revised draft 5/28/91, in a "negative pressure" environment and have demonstrated acceptable performance under such test conditions (acceptable performance includes satisfying requirements for minimum CO release into the test enclosure and additionally; demonstrating that burnback into the fuel hopper does not occur for either normal or abnormal operating states in a test enclosure at "negative pressure", relative to bulk air pressure);

OR

b) if not so tested, the manufacturer shall provide a carbon monoxide (CO) gas alarm with the sale of the pellet appliance.

These requirements are imposed on pellet appliances because there exists the possibility that should mechanical draft in the pellet stove fail and the building in which the pellet appliance is operating is tightly constructed, the pressure in the building could be lower than the bulk atmospheric pressure - particularly if the building has bathroom, kitchen or other exhaust fans operating. Under such conditions, a pellet appliance might backdraft into the building, or even burnback into the fuel hopper, where, depending on the manufacturer, from 20 to 150 pounds of pellets may be stored (note that even if the pellet appliance does not rely on mechanical draft, these "negative pressure" issues still exist).

From the perspective of the local building departments, it will only be necessary to advise applicants seeking a permit to install a pellet appliance that he must get the required affidavit from the manufacturer, and that the affidavit must be filed with the permit application.

There are two (2) types of affidavits, titles are shown on the next page.

PELLET STOVE REQUIREMENTS - CONTINUED FROM PAGE 2

One affidavit is entitled:

SOLID FUEL BURNING PELLET STOVE AFFIDAVIT

FOR PELLET STOVES SATISFYING "NEGATIVE PRESSURE" TESTING

(FALL 1991/WINTER 1992 HEATING SEASON)

the other is entitled:

SOLID FUEL BURNING PELLET STOVE AFFIDAVIT

FOR PELLET STOVES SOLD WITH CARBON MONOXIDE (CO) GAS ALARMS

(FALL 1991/WINTER 1992 HEATING SEASON)

Please note that the affidavit dealing with CO gas alarms, refers to requirements found on "page 1" of that affidavit (page 1 of this affidavit is simply the instruction sheet on how to properly complete the affidavit).

As this is an important issue that may affect many building officials in the coming months, we have reproduced below that portion of the instruction page addressing CO gas alarm requirements. (Note that it is the responsibility of the manufacturer to choose an appropriate gas alarm.)

REQUIREMENTS (CO GAS ALARMED PELLET APPLIANCES):

For the Fall 1991/Winter 1992 heating season, if "negative pressure" listing testing, per the methodology of ULC S627/CSA Standard B366.2, STANDARD FOR SPACE HEATERS FOR USE WITH SOLID FUELS, Section 12.3, or via the requirements of draft standard ASTM E-91, revised draft 5/28/91, STANDARD SAFETY SPECIFICATION FOR ROOM HEATERS, PELLET FUEL BURNING TYPE, Section 10.1.5, has not been performed on product inventory intended for sale in this heating season, it will still be required that pellet stoves, as solid fuel burning devices, be tested/listed to UL 1482 and/or ANSI/UL 737, as applicable (per Section 3409.2 of the Fifth Edition of the Massachusetts State Building Code); additionally, it will be necessary that manufacturers provide a carbon monoxide gas alarm, with the pellet appliance - the selection of the CO gas alarm shall be the responsibility of the pellet stove manufacturer, but said gas alarm will possess CO detection capability/sensitivity consistent with generally accepted national standards relating to safety, and be of such a design that a sufficiently audible alarm is sounded in the event of excessive backdrafting or in the event of burnback; both types of events causing excessive CO release to the habitable space of the building. The CO gas alarm shall be located either in the room in which the pellet stove is operating or shall otherwise be located to ensure early warning in the event of abnormal pellet stove operation (the gas alarm installation shall be per the alarm manufacturer's instructions and otherwise be in accordance with all applicable local, State and Federal requirements, and any additional requirements imposed by the pellet stove manufacturer). Should the gas alarm be energized via battery, the alarm should, if possible, be designed to warn the user of low battery voltage, or weakened charge. The pellet stove manufacturer shall provide the gas alarm and any and all necessary gas alarm instruction materials, as part of the equipment and materials furnished at the time of sale of the pellet stove.

Pages four (4) and five (5) that follow are samples of the affidavits that a building official must receive when an individual is applying for a permit to install a pellet stove. Please remember that this action is only required for pellet devices, not for passive devices that would be labeled through the normal testing procedure.

The Commonwealth of Massachusetts

Executive Office of Public Safety

State Board of Building Regulations and Standards

McCormack State Office Building
One Ashburton Place - Room 1301
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(617) 727-3200

William F. Weld
Governor

Kentaro Tsutsumi
Chairman

Charles J. Dinezio
Administrator

SAMPLE

SOLID FUEL BURNING PELLET STOVE AFFIDAVIT

FOR PELLET STOVES SATISFYING "NEGATIVE PRESSURE" TESTING

(FALL 1991/WINTER 1992 HEATING SEASON)

To the State Board of Building Regulations and Standards: Date_____19___

I, _____ as _____

on behalf of _____,

a manufacturer of solid fuel burning pellet stoves/heaters/fire place inserts (circle appropriate products),

hereby certify that the following pellet heating appliances, by **explicit model identification**;

model(s): _____

_____

_____

have been tested, or tested/listed (circle appropriate information) per the "negative pressure" test requirements of either ULC S627/CSA Standard B366.2, or draft standard ASTM E-91, revised draft 5/28/91, and found to satisfy the applicable criteria of ULC S627/CSA Standard B366.2 or draft standard ASTM E-91, revised draft 5/28/91; additionally, burnback did not occur either during normal or abnormal "negative pressure" testing.

MANUFACTURER: _____

SIGNED: _____

TYPED OR PRINT NAME ABOVE: _____

TITLE: _____

On this _____ day of _____, 19___, then personally appeared before me, the above named _____

and made oath that the above statements by him/her, are true.

BEFORE ME:

_____

NOTARY PUBLIC

MY COMMISSION EXPIRES: _____ 19_____

The Commonwealth of Massachusetts
Executive Office of Public Safety
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One Ashburton Place - Room 1301
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SAMPLE

SOLID FUEL BURNING PELLET STOVE AFFIDAVIT

FOR PELLET STOVES SOLD WITH CARBON MONOXIDE (CO) GAS ALARMS

(FALL 1991/WINTER 1992 HEATING SEASON)

To the State Board of Building Regulations and Standards: Date_____19__

I, _____ as _____

on behalf of _____

a manufacturer of solid fuel burning pellet stoves/heaters/fire place inserts (circle appropriate products),

hereby certify that the following pellet heating appliances, by explicit model identification;

model(s): _____

_____ and

_____,

sold, for use in Massachusetts, are equipped with a carbon monoxide gas alarm, in accordance with the requirements specified on Page 1 of this affidavit.

MANUFACTURER: _____

SIGNED: _____

TYPE OR PRINT NAME ABOVE: _____

TITLE: _____

On this _____ day of _____, 19___, then personally appeared before me, the above named _____

and made oath that the above statements by him/her, are true.

BEFORE ME:

_____

NOTARY PUBLIC

MY COMMISSION EXPIRES: _____ 19_____

IN-GRADE TESTING OF DIMENSIONAL LUMBER

Over the past twelve years the lumber producers of North America (Canadian Wood Council, Southern Pine Inspection Bureau, Western Wood Products Association) in conjunction with the U.S. Forest Products Laboratory have been undertaking a major testing program involving the testing, to destruction, of over seventy thousand (70, 000) pieces of dimensional lumber of all sizes and from all species groups. The object of the tests was to empirically (i.e. by testing actual sizes) reevaluate the design properties of commercially produced dimensional lumber. Historically, lumber design values have been obtained by testing pieces of 2 inch by 2 inch, clear (knotless) samples by the application of loads, and recording the stresses required to bend the samples to predetermined limits. Correction factors were then applied to each grade and species to account for the effect of knots permitted in particular grades. Basic theoretical design values were developed from these tests.

The ***in-grade*** approach used samples of lumber taken directly from mill stock and which had been inspected, graded (using current grading rules) and stamped by the lumber inspection agency's mill grader. Tests were performed on actual size and span in the selected grade. By this method, results were not extrapolated from a single clear 2 inch by 2 inch sample, but instead were derived from the actual size, span and grade of species. In addition to measuring the mechanical properties, other information such as the species, grade and size of the sample, the location of the mill, the sampling region, knot sizes, slope of grain and information related to rate-of-growth, were obtained.

Four primary properties of lumber were evaluated in order to obtain updated empirical design values for species of softwoods. The properties are:

- Fiber Stress in Bending, F_b
- Tension Parallel-to-Grain, F_t
- Compression Parallel-to-Grain, $F_{c//}$
- Modulus of Elasticity, E

Results of the ***in-grade*** testing program are reflected in the ***1991 National Design Specification for Wood Construction (NDS)*** published by the National Forest Products Association (NF_aPA).

Base Design Stresses have been developed for each grade and species group. In order for the designer to select the actual design stress for the particular member being designed, the Base Design Stress is required to be multiplied by "Adjustment Factors" which account for; ***a) Size (e.g. 2x4, 2x6, 2x8, etc.); b) Repetitive Member Factor; c) Duration of Load Factor; and d) Horizontal Shear Adjustment Factor.***

Results on individual species groups are mixed. Some species show an increased strength and modulus of elasticity; others show decreases in strength or modulus of elasticity. It is important to note that the actual design property is the property obtained ***after*** the appropriate design adjustment factors have been applied. Also important is the fact that the design values that have been applied for many years have proved to serve their intended purpose with no adverse effect and with no danger to the public.

The results of ***in-grade*** testing have not yet been accepted by any of the model code groups, nor have they been included in the Massachusetts State Building Code. As you are aware, amending any building code is a timely process. The results of ***in-grade*** testing have only been publicly available since September, 1991. The State Board of Building Regulations and Standards will be undertaking a full review of the results of the in-grade testing procedure and the proposed new base design values.

Until such time as the Massachusetts State Building Code adopts the 1991 National Design Specification (NDS) and the new dimensional lumber basic design values and methods of design contained therein, the applicable design standard remains the 1986 NDS, which should be referenced for dimensional lumber design values.

ROOF PONDS

Section 1110.4 of the Fifth Edition of the building code states that: "Roofs shall be designed for the maximum possible depth of water that may be ponded thereon as determined by the relative levels of roof deck, overflow weirs, scuppers, edges of serviceable drains, and the deflected shape of the structural elements. In determining the maximum possible depth of water, all **primary** [emphasis added] roof drainage means shall be assumed to be blocked."

Although this paragraph appears clear, many question the correct interpretation of the phrase ". . . all primary roof drainage means shall be assumed to be blocked."

The literal interpretation of this phrase would lead one to conclude that only primary drainage needs to be considered blocked, disregarding secondary drainage. In most cases, this logic would hold true. However, there are stipulations. One, the secondary system must be located at a higher elevation than the primary system. And, two, the secondary system would need to be designed to provide at least as much drainage as the primary system in order to control ponding at that level.

SPECIAL ENGINEERING DETAILS

Section 113.7 of the building code empowers the local building official to request " . . . computations, stress diagrams and other essential technical data, prepared by a registered professional engineer . . ." and requires that " . . . All such plans and computations shall bear the Massachusetts seal of registration and signature of such qualified registered professional engineer. . ." when work requires special engineering knowledge. This requirement is not limited to controlled construction as many people seem to believe. If, for example, someone were designing a system of roof trusses for a single family residence, or a cantilevered porch for this same residence, the building official is well within his rights to require that the permit applicant supply design data (prepared by a qualified registered professional engineer or architect) to substantiate his choice of design.

UPDATE ON CERTIFICATION

The certification of building officials is an issue that has been on the minds of many people for a number of years. The topic is no stranger to this publication. Many times in the past **CODEWORD** has examined the pros and cons of certifying building officials. However, at this point in time it seems that most of the debate has died and that action to implement certification is in full swing.

Over the summer, the Certification Committee developed a program which specifies requirements for certification and follow-up educational criteria. This program has been reviewed and endorsed by all the local building officials' organizations. This marks the first of many very important steps that need to be taken in the process.

The next step is to file legislation enabling the Board of Building Regulations and Standards to "grandfather" all currently employed, qualified individuals into their positions as building officials. This legislation has been drafted and has been approved by the full Board of Building Regulations and Standards at its meeting of December 10, 1991. Of course, the legislation must be filed and passed in order to become effective, but this is expected to happen shortly.

It appears, then, that certification will become a reality. With it, the building official will be better prepared to face the challenges of the ever-changing world of building technology and regulation.

Section 126.7.11 (Contents of Decisions) of the code states: "Any decision shall not be considered by any person or agency as a precedent for future decisions."

Appeal Docket #90-003

The Appellant testified that he was the owner of a four (4) story, fifty (50) unit apartment building. The Appellant had requested that a city health department visit the property to review certain problems at the facility. Unfortunately, a health official was unavailable, so a building official arrived in his stead. Upon examination of the property the building official noted that several apartments had access to only one means of egress from the building. As such, the building official issued a notice of violation under the provisions of Section 604.2.1 and Article 22 of the Fourth Edition of the code (Section 804 and Article 32, respectively, of the Fifth Edition). The Appellant recognized the problem as identified by the building official and as a responsible property owner quickly rectified the matter. However, the Appellant questioned the authority of the building official to make such a determination when the property was not undergoing any form of renovation. In fact, there was not a permit of any kind issued for work at the site. The Appellant asserted that the requirements of Article 22 are restricted to circumstances where repair or alteration is sought. Although the Appellant complied with the order, he requested that the Board make a determination regarding the authority of the inspector in such matters.

The local building official testified that he had visited the building and noted the lack of egress and so notified the Appellant. The inspector indicated that the building code is explicit with respect to hazardous exitways and that the code provides ample authority to allow him to carry out his actions.

Following testimony, the Board found that the building official is afforded the right of entry to any building in accordance with Section 112 of the building code (Same section applies in both the Fourth and Fifth Editions). Further, the Board found, that once the inspector is inside the building he may conduct inspections and issue orders as necessary. With respect to the number of exits, the Board found that the inspector had correctly interpreted the provisions of the building code and had rightly issued the notice of violation. Since the Appellant had complied with the order, no further action was necessary.

Appeal Docket #90-007

The Appellant testified that he represented the owner of a building to which an automatic sprinkler system was added as required by Section 437.0 (Open wells) of the Fourth Edition of the State Building Code (Section 606.0 of the Fifth). The system was installed in concert with the provisions of NFiPA (National Fire Prevention Association) Standard Number 13, without further regard for the building code. As a result, sprinkler heads were not placed around the perimeter of the opening or within two (2) feet of the draft stopping as required by Section 437.3.1. NFiPA Standard 13 requires similar but not identical placement, and the Appellant felt that the variation would not reduce the efficiency of the system.

The local building official testified that he had reviewed the system upon installation and noted the violation. The heads were installed about five (5) feet from the face of the wall and twelve (12) feet on center at the floor opening. The remainder of the system conformed with the building code.

Following testimony, the Board found that the building official had correctly cited a violation of Section 437.3.1. The Board further found that, although the installation of the system in accordance with NFiPA 13 did not comply with the letter of the code, it appears to adequately address the safety concerns embodied in the code. Based on this knowledge, the Board voted to vary the requirements of the cited system to allow the system to remain as constructed.

TABLE 108 INSPECTIONS

Table 108 dictates the minimum number of required inspections and frequency of re-certification for buildings based on their use group classification. In most instances, the table is clear as to the criteria for inspection, but occasionally we get questions. The most recent is: Are Group Residences, Limited Group Residences and Group Dwelling Units meant to be inspected in accordance with the provisions of Table 108?

The response: for Limited Group Residences and Group Residences, yes; for Group Dwelling Units, no.

In explanation, it seems the confusion stems from the publication of the Fifth Edition of the code. In the Fourth Edition, the last line of this table reads: R-3 Limited Group Residences Annually One Year $40

Similar language appears in the Fifth Edition of the code for Limited Group Residences. Clearly, the intention has always been to inspect these uses with respect to this Table 108.

However, Table 108 in the Fourth Edition does not address Group Residences as a line item. Yet, in referencing the text governing this use under Section 424.7.2, we find that: "Before issuance of the final certificate of occupancy, the authorized inspectors shall mutually conduct a test . . . This test shall be conducted once a year in accordance with Section 108.5.1 for the purposes of recertifying both the building and occupants.". Turning to Section 108.5.1, we further find that " . . . inspections . . . [shall be made] . . . in accordance with Table 108." Since one now needs to reference the table, but is not given a line item to follow, he must use the guidance offered for Limited Group Residences to conduct his inspections.

In order to clarify this issue, a line addressing Group Residences was added to the table during the production of the Fifth Edition. However, the addition of this language seems to leave one guessing as to whether or not Group Dwelling Units need to be inspected also. After all, it is similar to the other uses.

Although, it may be similar, it is not the same, and Table 108 is silent in the Fourth with respect to inspection of Group Dwelling Units. The Fifth Edition is silent as well. Thus, it follows that it was never the intention of the code to require the inspection of Group Dwelling Units with respect to Table 108, **unless** the unit is part of a multi-family apartment building that **would** be inspected in line with the provisions of this table for the R-2 use group classification.

SUSPENSIONS AND REVOCATIONS

On August 20, 1991, the License Review Committee for the Board of Building Regulations and Standards voted unanimously to suspend the Construction Supervisor's License of Mr. Ralph D'Amelio, License Number 050688, for a period of one year beginning August 20, 1991 and ending August 20, 1992.

Please remember that the regulations governing the procedure for review of complaints regarding construction supervisor's has been changed. No longer do we follow the route described in 780-CMR-5. For the proper approach, see page 6 of the September 1991, issue of **CODEWORD.**

HOME OWNER EXEMPTION CLAUSE

Section 109.0 of the building code outlines the *Rules and Regulations* pertaining to certain programs that are managed by the Board of Building Regulations and Standards. One of the largest is the licensing of construction supervisors. This program was developed to ensure that individuals engaged in construction, demolition etc. (as detailed in Section 109.1.1) are literate in building code and other construction related matters. The program did not intend to preclude a home owner from performing work on **his own** premise. Thus, an exemption was added to Section 109.1.1 that reads: "A Home Owner performing work for which a permit is required shall be exempt from the provisions of this section . . ." The exception continues to state that: "For purposes of this section only, a "Home Owner" is defined as a . . . Person(s) who owns a parcel of land which he/she **resides** [emphasis added] or intends to reside . . ." Finally, the language concludes by stating that the exemption is valid only for ". . . dwelling[s] of six or less units, attached or detached structures accessory to such use and/or farm structures. A person who constructs more than **one home in a two year period** [emphasis added] shall not be considered a home owner".

EXEMPTION - CONTINUED FROM PAGE 9

A building official must be cautious in issuing permits in line with this exemption. As a matter of procedure, he should verify that the person applying for permit under this clause actually meets the cited criteria. A quick check of his driver's license can confirm his address. And, if plans are not filed with the application, a look at the local zoning map (if one is not familiar with the area of town) can substantiate the type of facility one might expect to find in the area. If the map shows a commercial or business zone, perhaps there would be reason for question.

CODEWORD

This issue's **CODEWORD** is; **sound attenuation**. The term is not defined within the building code, but according to the Construction Glossary, by J. Stewart Stein, AIA, FCSI, it means:

1.) Reduction of the energy or intensity of sound;
2.) reduction of sound energy as it passes through a conductor, resulting from the conductor's resistance to the transmission; or
3.) reduction in the intensity of a sound signal, measured in decibels.

Sound attenuation is an important consideration when one is involved in the design of residential structures. We have all heard the expression, "Those walls must be made of paper. I can hear everything that goes on next-door." The reason for this, is poor sound attenuation, or poor sound reduction.

In years past, it seems, not much attention was paid to this issue, but today, Section 714.0 of the Fifth Edition of the code speaks to sound transmission control. This section requires a sound transmission class (STC) of not less than 45 for airborne noise for walls, partitions and floor/ceiling assemblies that separate dwelling units from one another or from public areas or service areas. The code further requires that the rating be determined in accordance with ASTM Standard Test Method E90, as listed in Appendix A of the code.

As one might expect, sound attenuation can be achieved by providing a greater quantity of dense materials. However, it is not as simple as adding additional layers of gypsum wall board. Although some benefit would be gained, a specific assembly must be constructed in order to achieve meaningful results.

Just as a designer would indicate the Underwriters Laboratories (or comparable) design number corresponding to a one-hour fire rated partition on his plans, so too should he indicate the assembly chosen to accomplish the required STC rating. But, how can one determine the rating of a particular assembly? A handy tool to have available is called the *Fire Resistance/Sound Control Design Manual*, published by the Gypsum Products Association. This manual is obtained by writing to: Gypsum Association, 1603 Orrington Avenue, Evanston, Illinois, 60201. In this document various conditions of construction are identified that indicate the sound rating (STC) for the assembly and the fire resistance rating achieved by the composition. It is important to note that the designer must adhere to the materials and construction details as specified in order to secure the desired rating.

HAPPY NEW YEAR

It seems impossible that another year has come and gone. We hope that each of you has made the most of this very difficult year and that the outlook for 1992 is a little brighter.

Again, we at **CODEWORD** would like to wish everyone a very happy and healthy 1992, and we look forward to providing many more issues of our publication in the up-coming months to help serve and inform.

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