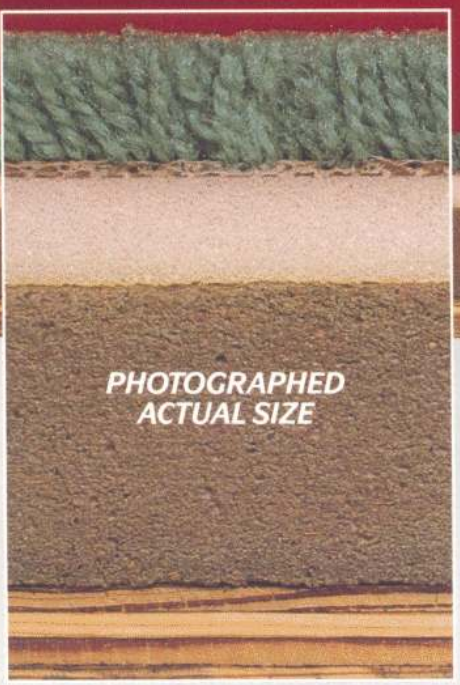
Elastizell

LIGHTWEIGHT CONCRETE FLOOR SYSTEMS

TRUSTED FOR OVER 30 YEARS

Elastizell is your best



CONTENTS

- Contractor requirements
- Architectural specifications
- Code approvals
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- Solar applications
- Metal deck subfloor
- Precast concrete floors

For products claiming to be "as good as Elastizell," demand substantiating engineering data & tests.

ELASTIZELL ADVANTAGES

Elastizell is a unique product. Nowhere can you find a single floor system bringing together as broad a spectrum of product advantages. Advantages that bring you the peace of mind and confidence that you have chosen the very best floor system available.

Elastizell has been the standard for quality floor fills for over 30 years. This includes performance criteria of fire resistance and sound control at a competitive cost. Its unique system of air cells encapsulated within a cement/grout matrix is widely accepted over metal, wood, and precast concrete decks in garden and midrise apartments, condominiums, office buildings and for building rehabilitation.

Compare these advantages to any other product on the market, and we think you'll agree, Elastizell is your best buy:

MORE FOR YOUR DOLLAR

Elastizell floor fills provide benefits of sound conditioning, improved fire resistance, and a solid flooring base resulting in an economical underlayment material.

TROUBLE FREE APPLICATION

Elastizell floor fill is a standard product which is quickly and efficiently installed by trained and experienced applicator crews. This installation does not disrupt other trades.

STRONGER MATERIAL

Elastizell floor fills are custom-designed for compressive strengths of 1000–2000 psi. Elastizell pro-

The Elastizell Application Process

Elastizell has perfected its application process over more than 30 years. Each step is carefully executed by skilled applicators. Although these are the basic steps in the Elastizell application process, variations will depend upon the design and specifications of the job. Unlike other floor fill materials, Elastizell is versatile and can be customized for specific applications and varying job conditions.

1. ***PLYWOOD SUBFLOOR***
   The Plywood subfloor should be nailed per APA recommendations. The plywood subfloor should not exhibit delamination or deterioration of any kind.
2. ***VAPOR BARRIER***
   An asphalt impregnated kraft paper is one of the accepted vapor barriers over the plywood subfloor.
3. ***CONTROL JOINTS***
   Metal or plastic control joint strips direct the shrinkage which is typical of portland cement materials.
4. ***POURING/SCREEDING***
   The Elastizell material is pumped into place. Its standard thickness of 1 1/2" is controlled by a rolling screed.
5. ***DARBY FINISH***
   A darby smooths the placed material to a uniform finish acceptable for the final flooring material—carpet & pad, tile, or sheet goods.
6. ***FINISHED FLOOR***
   The finished Elastizell floor fill provides significant fire resistance and sound conditioning characteristics to the floor/ceiling system.

vides a solid base for finish flooring materials.

FIRE-RATED
Elastizell has numerous UL and FM tested and approved fire-rated assemblies encompassing standard wood joist, truss joist, and steel joist construction. See pages 4–5.

RESISTS WATER
The Elastizell material is not damaged by water. Once the floor fill has set, neither water spillage nor rain will damage the floor.

CODE APPROVED
Elastizell floor fills have been approved by the three major building codes-BCOA, ICBO, SBCC-as acceptable over wood subfloors replacing the second layer of wood flooring in wood frame construction.

COST EFFICIENT
Elastizell floor fills may be applied either before or after drywall. This improves the cost efficiency of both large and small projects.

ACCREDITED SOUND TESTS
Independent, accredited sound laboratories have tested various Elastizell floor fill systems since 1957. See pages 6–7.

APPLICATION FLEXIBILITY
The one day application of an Elastizell floor fill over standard wood framing is dependent on the builder's preparation and coordination with other trades. Elastizell concrete is cast at a density of 100 to 110 pcf, 1 1/2" thick, the thickness of a 2 × 4 plate. Consult your local applicator for floor finish recommendations.

NON-DUSTING
Elastizell floor fills resist abrasive damage and will not dust under normal construction traffic. Unlike other floor fill materials, Elastizell may be steel trowelled to further increase its surface strength.

PLYWOOD SUBFLOOR

VAPOR BARRIER

CONTROL JOINTS

POURING/SCREEDING

DARBY FINISH

FINISHED FLOOR

Elastizell fire-rated s

Elastizell meets or exceeds local fire codes and keeps insurance costs to a minimum.

UL FIRE RATINGS

A fire-rated floor/ceiling system should be of prime importance to both the owner and the developer of rental property—either residential or commercial. Besides offering reduced fire insurance rates, a proven fire-rated system affords the owner the peace of mind that he has given his tenants the best value for their dollar.

Elastizell is the only lightweight concrete with tested and approved UL fire-rated assemblies. Consult the UL Fire Resistance Directory for specific details. The major building codes accept Elastizell concrete as replacing the second layer of wood in recognized floor/ceiling fire tested systems.

Standard wood frame systems are typically 2″ × 10″ joists spaced at 16 inches with the Elastizell floor fill cast over a plywood subfloor. Manufactured wood truss joists and steel channel joists have also been fire-rated with Elastizell.

FACTORY MUTUAL TESTS

In addition to the UL fire ratings, which are nationally known and respected, Elastizell has spent the time and money to test its floor system with the other recognized authority on fire-rated systems, the *Factory Mutual System*.

Elastizell recommends that when you are considering a flooring system, carefully check the fire rating tests. Look for the integrity and recognition of both the UL and FM approvals and tests.

FM
APPROVED

ystems.

UL Fire Ratings L 500 Series				
	Hourly Rating	L Series	Joist Type & Spacing	Minimum Subfloor Thickness
UL—1 Hour Ratings Wood Joists	1	501	2 x 10 @ 16"	15/32"
	1	502	2 x 10 @ 16"	15/32"
	1	503	2 x 10 @ 16"	15/32"
	1	512	2 x 10 @ 16"	15/32"
	1	513	2 x 10 @ 24"	23/32"
	1	514	2 x 10 @ 16"	15/32"
	1	515	2 x 10 @ 16"	15/32"
	1	519	2 x 10 @ 16"	15/32"
	1	522	2 x 10 @ 16"	15/32"
	1	526	2 x 10 @ 16"	15/32"
Trus Joist	1	518	14" TJ @ 32" or 9 1/2" @ 24"	19/32"
2 x 4 Truss	1	528	2 x 4 Truss @ 24"	23/32"
2 x 4 Truss	1	529	2 x 4 Truss @ 24"	23/32"
Trus Joist	1	530	9 1/2" TJI @ 24"	3/4"
Timjoist	1	531	9" TMI @ 24"	23/32"
Steel Joists	1	524	7" channels @ 24"	19/32"
UL—1 1/2 Hour Ratings Wood Joists	1.5	532	2 x 10 @ 16"	5/8"
UL—2 Hour Ratings Wood Joists	2	505	2 x 10 @ 16"	15/32"
	2	511	2 x 10 @ 16"	15/32"

STANDARD WOOD FRAME SYSTEMS

- *Identification*: Factory Mutual Serial No. 20430—February 16, 1971

  Specifications: Standard wood frame system with Elastizell concrete and resilient ceiling channels.

  Results: 1 hour endurance

- *Identification*: Factory Mutual Serial No. 23105—March 1973

  Specifications: Standard wood frame system with Elastizell concrete, Owens-Corning R-11 batt insulation and resilient ceiling channels.

  Results: 1 hour endurance

TRUS JOIST SYSTEMS

- *Identification*: Factory Mutual Serial No. 21566

  Specifications: TJI series joists @ 24" centers with Elastizell concrete, plywood subfloor and 3 1/2" batt insulation with gypsum ceilingboard.

  Results: 45 minutes endurance

- *Identification*: Factory Mutual J.I. 2C9Q7 .AC—September 9, 1978

  Specifications: TJI series joists @ 24" centers with Elastizell concrete, plywood subfloor and 2 layers of gypsum ceilingboard.

  Results: 1 hour endurance

NOTE: *Trus Joists* have the advantage of being able to span greater distances than standard wood joists and are usually spaced 24" on center. At this spacing, the American Plywood Association (APA) will permit 5/8" or 3/4"(42/20) or 3/4"(48/24) designated plywood thicknesses for subfloors if topped with 1 1/2" of Elastizell concrete floor fill. *Trus Joists* will have either a solid plywood or a tubular steel web.

STEEL FRAMING SYSTEMS

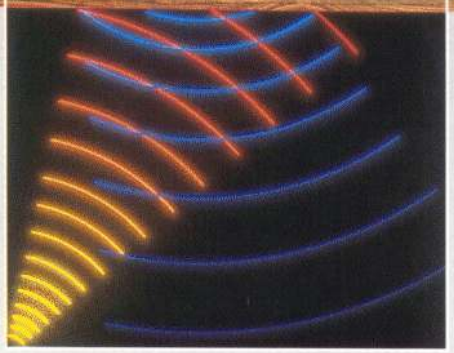
- *Identification*: Factory Mutual Serial No. 29135—March 1977

  Specifications: Corrugated, galvanized metal deck over INRYCO Milcor steel floor joist with Elastizell concrete floor fill and gypsum ceiling board attached by resilient furring channels.

  Results: 1 hour endurance

NOTE: These channel shaped joists have the same depths as standard wood joists and are usually spaced at 24" on center in conjunction with either plywood decking or corrugated, galvanized metal centering. Elastizell concrete floor fills are cast either 1/2" or 2" thick on these decks.

Elastizell sound barr



Elastizell exceeds accepted standards for sound control often without the addition of sound batts or resilient channels.

SOUND TESTING

In addition to improved fire ratings, another benefit of the Elastizell floor system is the added and improved sound barrier for floor/ceiling construction. An Elastizell floor fill is an excellent practical compromise between the extremes of "feather" and "lead" to stop sound transmission—either airborne or impact—in floor/ceiling construction. These benefits include stopping the squeaky wood floor problem and providing a solid base for whichever floor covering is selected—carpet, tile, or sheet goods.

The Elastizell floor fill is but one of many products in floor/ceiling construction. Efficient sound control depends upon the proper installation of all products in this system. Elastizell floor fill replaces the second layer of wood in frame construction and improves the sound properties by virtue of the Mass Law.

Wood frame construction
Identification
Carpet floor covering: Riverbank: TL 73-139 IN 73-17 Riverbank: TL 73-139, IN 73-18 Riverbank: TL 73-138, IN 73-15 Riverbank: TL 73-138, IN 73-16 Geiger & Hamme: CCA-11MT Geiger & Hamme: CCA-13MT
Hard surface floor covering: Riverbank: TL 76-67, IN 76-8 Riverbank: TL 76-67, IN 76-4
Steel joist construction Identification
ELZ/OC/USS-10MT March 1977
Trus Joist construction Identification
LCR-4MT September 9, 1978

SOUND BARRIER CONSTRUCTION NOTES

JOIST SPAN SPECIFICATIONS:

The following wood joist-span table is a guide based on the following assumptions only: The table should not be used when joists are carrying bearing partitions or other concentrated loads. For variations in joist size and spacing, or special span conditions, consult the Elastizell Corporation of America.

JOIST SPACING	JOIST SIZE	JOIST SPAN
12″	2 × 8	14′–4″
	2 × 10	18′–1″
	2 × 12	21′–10″
16″	2 × 8	12′–5″
	2 × 10	15′–9″
	2 × 12	19′–1″
24″	2 × 8	10′–3″
	2 × 10	13′–0″
	2 × 12	15′–9″

Joist properties: E = 1,700,000 psi, f = 1250 psi (1450 psi repetitive member use)

Repetitive member use is allowed when joists are not spaced more than 24″, are not less than 3 in number, and are joined by floor elements adequate to support the design load. The allowable stresses in bending are 15% greater than for single member use. (National Forest Products Association)

These joist spans were all controlled by bending under total load at an extreme fiber stress of 1250 psi. The deflection of L/360 @ 40 psf live load was also satisfied.

ier systems

Basic System: (1 1/2" Elastizell concrete, 5/8" plywood subfloor, 2" x 10" joist @ 16", 5/8" gypsum ceilingboard) Details	STC	IIC
Carpet & pad, 1/2" ceilingboard	50	67
Kitchen carpet, 1/2" ceilingboard	50	55
Carpet & pad, 3 1/2" batt insulation, 1/2" ceilingboard	53	66
Carpet & pad, 3 1/2" batt insulation, 1/2" ceilingboard	53	52
Carpet & pad, resilient channels	58	73
Carpet & pad, 3 1/2" batt insulation, 1/2" ceilingboard	61	79
Quiet Zone II Vinyl Corlon, 3 1/2" batt insulation, resilient channels	60	54
Tredway Corlon, 3 1/2" batt insulation, resilient channels	60	57
Details		
Carpet & pad, 1 1/2" Elastizell concrete above corrugations, 3/4" deep x 26 gauge steel deck, US Steel super C joist, 3 1/2" Owens Corning batt insulation, 1/2" ceilingboard	52	70
Details		
Carpet & pad, 1 1/2" Elastizell concrete, 3/4" plywood subfloor, 12 1/2" deep **Trus Joist** @ 24", 3" batt insulation, resilient channel, 5/8" ceiling board	59	77

NOTE: These acoustical tests were conducted under controlled laboratory conditions which minimize flanking and other external variables. Field construction practices and building design may cause variations from these laboratory results. Small variations in either subfloor or ceilingboard thickness will have a negligible effect on the test results. To improve sound control, first add resilient channels, then batt insulation.

PLYWOOD SUBFLOOR SPECIFICATIONS:

Since the plywood subfloor is the weakest portion of the floor/ceiling system, it is prudent to specify a quality material with an adequate number of plies and exterior glue. Check with the local applicator for clarification.

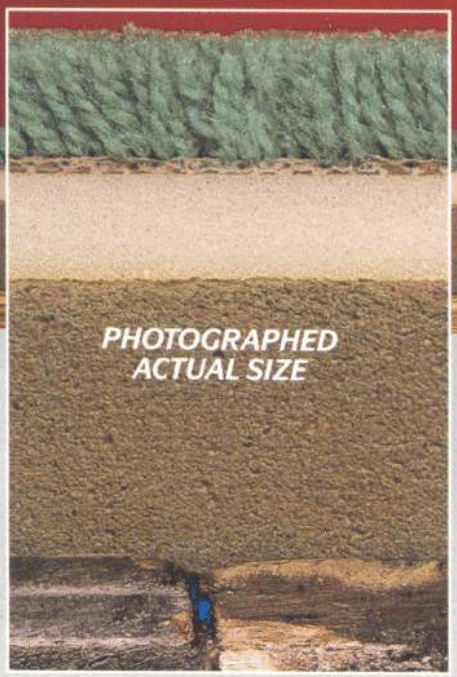
NOTE: For other subfloor materials such as OX-BOARD, ASPENITE, BLANDEX, WAFERWOOD, and others, please contact the individual manufacturers for their specific thickness recommendations for various joist spacings.

PLYWOOD SUBFLOOR GUIDE

PANEL SPAN RATING	PLYWOOD THICKNESS	JOIST SPACING
32/16	15/32" 1/2" 5/8"	16"
40/20	19/32" 5/8" 3/4" 7/8"	20" or 24"
48/24	23/32" 3/4" 7/8"	24"

Per American Plywood Association (APA) recommendations for subfloors with 1 1/2" of lightweight concrete applied over the plywood. Ref: APA Design/Construction Guide—March, 1984

Elastizell floor rehab



Elastizell offers not only superior strength and cost savings, but also innovative solutions to all types of floor rehabilitation problems.

An Elastizell floor fill can transform an old, unlevel and deteriorated floor into a smooth, flat and solid floor system without overloading either the structure or the owner's budget. Since each rehabilitation project is unique, the Elastizell applicator will suggest the best method of rehabilitation to the owner so that optimum results are achieved.

Compare these advantages of the Elastizell floor rehabilitation system to any other and we think you'll agree, Elastizell is your best buy:

COST SAVINGS

Elastizell floor fill is a unique solution for many floor problems existing in older buildings. The cost savings experienced with Elastizell results from 1) a considerable time savings in application and 2) the fact that it is a less expensive solution than the alternatives of removal and reconstruction. Unlike other cheap, quick-fix products on the market which have built-in problems that manifest themselves later, Elastizell solves them without creating new problems.

PREPARATION

Coordination with other trades is important in these applications. The contractor shall determine the required elevation at corners, doorways and wall edges to control the fill thickness placed. The bond between the Elastizell and the original flooring may be broken (if required) with either a vapor barrier paper or a sprayed latex applied and allowed to dry. This is especially important if the floor renovation is over different materials. Consult your local applicator for recommendations.

FLOOR LEVELING

The Elastizell solution eliminates low areas, crowns, slopes and other subfloor unevenness. Check that the door sill plates will be adequate after the floor is leveled.

The Elastizell rehab application process

The rehab application process is very similar to the normal manner of applying Elastizell to new construction. However, Elastizell distinguishes itself from other rehab processes by its flexibility and ease of application. Problem solving is a routine exercise for the Elastizell applicator.

1. ***DETERIORATED FLOOR***
   The old, uneven floor is stripped off to the acceptable structure as determined by the architect, owner or structural engineer. Any damaged areas are removed and replaced.
2. ***VAPOR BARRIER***
   As with the subfloor in new construction, an asphalt impregnated kraft paper is one of the accepted methods for providing a vapor barrier over the existing subfloor prior to installation of the Elastizell floor fill.
3. ***CONTROL JOINTS***
   Metal or plastic control joint strips direct the shrinkage which is typical of portland cement materials. Particular attention is placed on boxing around columns and dividing up large areas into 20′ by 20′ grids.
4. ***POURING/SCREEDING***
   Elastizell is pumped into place. Because of the subfloor variations in these rehabilitation applications, screeding to elevation pegs, string lines, or pipe screeds is an accepted practice.
5. ***DARBYING***
   A 'walking darby' smooths the placed material to a uniform finish following the screeding operation.
6. ***TROWELLED FINISH***
   A steel trowel finish provides a final surface ready for the floor finish material.

systems

PARTITION WALLS
Non load-bearing partitions are more easily constructed on a leveled floor. Detail these load-bearing partitions to bear on the original structure as recommended by the structural engineer.

FLOORING BASE
Elastizell floor fills provide a smooth, solid base for applying new floor coverings. For glue down carpet or resilient flooring, a steel trowel finish is recommended. (refer to General Construction Notes, pages 10 & 11)

SOUND CONTROL
Elastizell floor fills improve the sound conditioning of older floor systems. Attention must be paid to the type of floor covering and the joist/ceiling connection (resilient channel) for the highest quality sound conditioning.

FIRE RESISTANCE
The non-combustible Elastizell concrete floor fill may result in reduced insurance costs for a rehabilitated building.

STRUCTURAL ADEQUACY
The builder shall strip off the old flooring to either the subfloor or the joist system. After determining the required floor fill thickness, the architect or structural engineer shall warrant that the structural system is adequate for safely supporting the proposed floor fill. One inch of 100 pcf Elastizell concrete weighs 8.3 psf.

CASTING
Leveling thickness may vary from 0″ to more than 8″. For thicker fills, it may be possible to utilize either low density Elastizell or a lightweight insulation board for the bulk of the fill. It would then be topped with the standard 100–110 pcf Elastizell floor fill at a 2″ minimum thickness. At thicknesses less than 1″, it may be necessary to use a bonding compound or to nail expanded metal lath to the floor to increase bond and reduce breakup of thin edges. Thin edges are finished by either the flooring contractor or the Elastizell applicator per the proposal.

SLABS ON GRADE
The rehabilitation of urban units may be enhanced by casting basement slabs with Elastizell. This results in a cleaner unit, eases the rodent problem, and provides a usable basement with a solid floor. To facilitate the work, the basement should be graded, and drains and pipes located prior to placing the fill. Basement slabs are cast at least 3″ thick over the prepared subbase. Whenever possible, the surface should be sealed.

DETERIORATED FLOOR

VAPOR BARRIER

CONTROL JOINTS

POURING/SCREEDING

DARBYING

TROWELLED FINISH

GENERAL CONSTRUCTION NOTES

CONTRACTOR REQUIREMENTS

CLEAN: Floor must be broom clean with all blocking in place and holes filled.
OTHER TRADES: Area to be poured must be free from other trades.
INSPECTION: If required, complete before installation.
COLD WEATHER: Heat is provided by the contractor for inside temperature between 40°F and 60°F. Exhaust gases must be vented to prevent carbonation of the concrete surface. Check with your local applicator for proper venting procedures.
ARID CLIMATES: Windows and doors should be installed or covered to prevent air flow prematurely drying the surface of the fresh concrete.
INSTALLATION TIMING: Elastizell lightweight concrete floor fills may be installed anytime from after the roof is dried in and services roughed in to after the drywall and taping operations are completed.
PROTECTION: All fixtures such as bathtubs shall be sealed at the edges and protected to prevent damage from leaks in the subfloor.

COORDINATION WITH OTHER TRADES

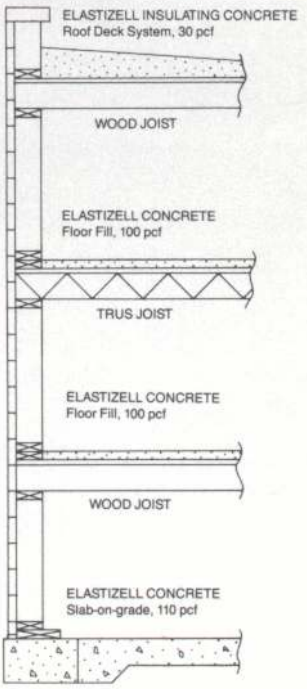
FRAMING:
Doorway Plates: Inclusion is at the option of the installer. Leave in plates at exterior or entrance doorways and where carpeting meets other types of floor covering.
Drywall: Installation before drywall, double plating is recommended. If single plating, install after drywall (and taping) to seal base for better sound control and save drywall cutting and fitting costs.
Masonry Walls: A 2 x 3 carpet nailing strip may be placed at the edge of masonry walls. Caulk the resulting joint.
Plywood Subfloor: We recommend a minimum 4-ply 1/2" Index-Rated C-D plywood with exterior glue. Subfloor must be well nailed to reduce movement and unnecessary cracking. Edges need not be tongue and groove nor blocked if 1 1/2" Elastizell concrete is cast over subfloor (per APA Bulletin).
Rigidity: Shorter spans, deeper joists, quality plywood, and bridging result in a more sound conditioned construction.
HEAT VENT: Flash vent at floor with metal. Frame floor duct openings with 2 x 2's, 1 1/2" above subfloor. Ducts and air returns penetrating between floors are a major source of sound transfer and rate special attention.
CONDUIT: Place conduit in walls or through floor joists. It should not be embedded in floor fill. If placed on subfloor, conduit shall be covered with mesh to minimize cracking.
PLUMBER: Bathtubs: Installed before slab—provide access for filling at end or side of tub. Installed after slab—head off connection opening with 2 x 4 and from below with sheet metal. All bathtubs should be covered to prevent damage. Toilet Rings: set at 1 1/2" above subfloor on blocks and seal opening to prevent spillage. Flash and plug all drain penetrations through subfloor.

SERVICE

To maximize service to your job, provide at least ten working days, notice prior to date of installation.

SPECIAL APPLICATION CONDITIONS

CARPET & PAD: Secure tack strips with 4-penny nails into slab or 8-penny nails nailed vertically through slab into the subfloor. Use long screws to fasten chrome strip to the plywood subfloor.
GLUE DOWN CARPET & VINYL TILE: Both of these floor finishings are restricted to areas not exceeding 400 square feet. They should be installed over either a steel trowelled or floorstoned surface.
RESILIENT TILE: As with plywood floors, light floorstoning, by others, may be necessary in some areas before laying tile. Allow curing time prior to tile installation.
CERAMIC TILE: Steel trowel finish is recommended for thinset tile bonding.
RADIANT HEATING: Elastizell floor fills may be installed over radiant heating pipes or solar heating tubes.
OSHA REQUIREMENTS: Subcontractor, by the execution of this agreement in no way either expressly or implicitly assumes any responsibility or liability of the contractor or any other party for compliance with the Occupational Safety and Health Act of 1970 and the Regulations promulgated thereunder, and limits his responsibility to providing safety equipment for his employees.



WOOD FRAME CONSTRUCTION

CODE APPROVALS:

Elastizell floor fills are approved by the three major building codes—BOCA, ICBO, SBCC—as acceptable over wood subfloors replacing the second layer of wood flooring in standard wood frame construction.

BOCA: Approval No. 68–
Structural Bureau Report No. 276

ICBO: Report No. 1381

SBCC: Report No. 8254

FHA—HUD RECOGNITION:
Materials Release No. 702a

ARCHITECTURAL SPECIFICATIONS DIVISION 3—CONCRETE

ELASTIZELL LIGHTWEIGHT CONCRETE FLOOR FILLS

01 SCOPE OF WORK: The Elastizell concrete applicator shall furnish labor, materials, equipment, and supervision for the installation of the Elastizell floor fill in accordance with the Drawings and Specifications.

02 MATERIALS:

A. Elastizell Concentrate shall be supplied by the Elastizell Corporation of America and installed by an approved Elastizell applicator.

B. PORTLAND CEMENT shall conform to ASTM C150: Type I, II, III or Block Cement.

C. MIXING WATER shall be clean and free from deleterious amounts of acid, alkali, oils, salts, and organic materials.

D. SAND shall be washed and graded with a sieve analysis within limits established by ASTM C33.

E. AGGREGATES such as 3/8" minus pea gravel or lightweight aggregates may be used in these mixes. Consult your applicator.

F. ADMIXTURES for water reducing or accelerating may be used with Elastizell concrete in accordance with manufacturer's recommendations and applicable for unusual job conditions.

NOTE: Calcium chloride or admixtures containing calcium chloride shall not be used in Elastizell concrete if cast over metal deck. Aluminum conduit shall not be embedded in the concrete.

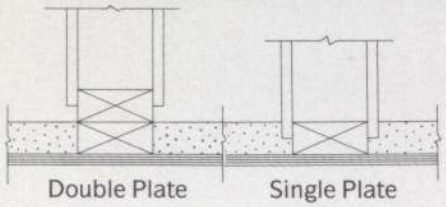
G. MOISTURE BARRIER may be:

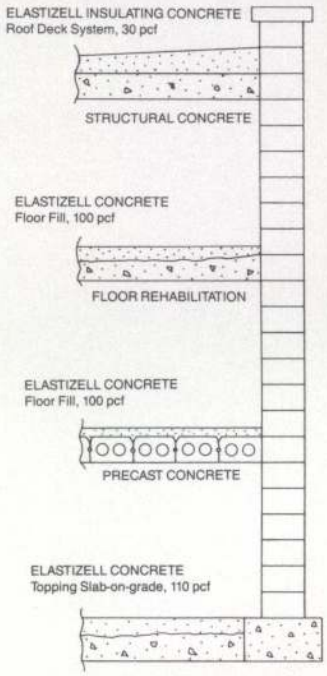
NONBONDED—An asphalt impregnated kraft paper stapled to the subfloor, or a liquid, form coating which is a non-residual petroleum hydrocarbon product free of heavy oils.

BONDED—A liquid latex with 48% solids which has been diluted in water and brushed, rolled or sprayed on the subfloor at the rate of one gallon per 400 square feet or SSI asphalt may also be used. Consult your applicator.

OPTION—Depending on the subfloor condition and the installer's recommendations, eliminating the paper is optional.

FLOOR PARTITION DETAILS





MASONRY/CONCRETE CONSTRUCTION

METAL DECK SUBFLOOR

The galvanized, corrugated steel decking shall be installed per the manufacturer's recommendations. The steel deck shall be capable of safely carrying dead loads, live loads, and construction loads since the Elastizell is a non-composite, non-structural fill.

The builder is responsible for cleaning the metal deck prior to casting and must seal all openings in the deck and at the edges. The Elastizell concrete is typically cast 2″ thick over the top of the corrugations.

Wire mesh may be incorporated with higher strength applications. Consult your applicator for recommendations.

PRECAST CONCRETE FLOOR SYSTEMS

Elastizell floor fills are an economical topping material for precast concrete floor beams. Please note the following recommendations about this application.

1. Minimum average thickness shall be 3/4″
2. Mesh is not required in the Elastizell floor fill.
3. The precast erector shall grout between the beams.
4. The contractor shall plug all holes, provide blocking to slab depth around edges of stairwells and other open areas, and sweep the floor clean of dirt and dust.
5. If casting an open slab, bearing partition plates shall be prelocated.
6. If casting after steel wall studs, pour after drywall is installed.

CAUTION

Alternate concrete floor fill materials shall be presented to the architect with full data at least 10 working days prior to bid date. This includes approvals from governing authorities, sound attenuation, fire ratings, etc.

THERMAL INSULATION:

Elastizell floor fills provide considerably more insulating value than regular concrete. Even in its higher density range, the thermal conductivity (K-factor) of Elastizell concrete is 1/2 to 1/4 that of regular concrete.

Dry Density (pcf)	Thermal Conductivity (K) (BTU/hr/sq ft/°F/in)	R Value (per inch)
80	2.8	0.36
90	3.6	0.28
100	4.4	0.23
110	5.4	0.18
120	6.4	0.16
145	12.0	0.08

Source: National Bureau of Standards Curve for No-fines Gravel and Lightweight Aggregate Concrete

Elastizell floor fills may be combined with RCPS insulation board to improve the thermal insulation and to reduce the dead load (weight) especially in rehabilitation projects.

SOLAR APPLICATIONS:

The Specific Heat (c) of Elastizell concrete will range as follows:

c = 0.20 to 0.28 BTU/(lb)(°F)

The value commonly used is:

c = 0.22 BTU/(lb)(°F)

For products claiming to be "as good as Elastizell," demand substantiating engineering data!

NOTE: Do not use a polyethylene film as it may prevent uniform drying of the floor fill.

H. REINFORCEMENT such as Keydeck mesh is not recommended in this 1 1/2″ floor fill application. For special situations, contact your local applicator.

03 MIX DESIGN: The standard floor fill mix shall have a cast density between 100-110 pcf and a minimum compressive strength of 1000 psi at 28 days. In commercial applications, the compressive strength may be revised to a minimum 1500 psi if the cast density range is increased to 110-115 pcf. This increases the dead load by about 1 psf. Consult your local applicator for density recommendations. 1 1/2″ of 100 pcf Elastizell weighs 12.5 psf.

04 MIXING AND PLACING:

A. Elastizell concrete shall be mixed and placed in accordance with good concrete practices by an applicator approved by the Elastizell Corporation of America. Elastizell concrete shall not be placed at inside temperatures less than 40°F. If building is not heated, consult applicator for his recommendations. In winter, inside heat should not exceed 60°F.

B. Field density checks shall be made periodically and variations greater than ± 4 pcf between the recommended density and the density at the point of discharge will require a modification of the mix.

C. Elastizell shall be pumped or otherwise transported to the place of final deposition by manufacturer approved methods. Pumping height will not adversely affect material.

05 FINISHING: Elastizell shall be screeded to the proper thickness, 1 1/2″ thick unless otherwise specified. Darby to a flat surface. Elastizell concrete may be trowelled per applicator recommendations. It **will not** have the same appearance as trowelled regular concrete. Do not leave the standard Elastizell floor fill exposed.

In renovation applications where Elastizell is installed prior to the partitions, a steel trowel finish is recommended.

06 CURING: The applicator will determine whether or not the Elastizell floor fill requires curing. Loads and foot traffic shall be kept off the floor for 24 hours. The floors should not be loaded with drywall for one week. Then, these loads shall be distributed and not concentrated at center span.

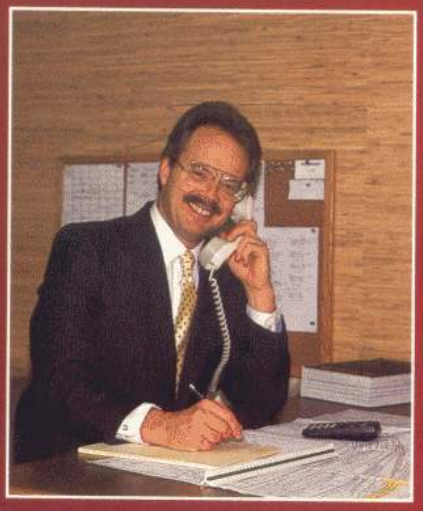
07 TESTING:

A. Specimens shall be taken at the point of placement. Don't rod cylinder, but rather hand tamp the side of form. 3″ × 6″ cylinders are recommended.

B. When testing is required, cylinders shall be protected from weather and disturbance. After 24 hours, carefully move to moist cure for 21 days prior to testing and air dry until testing.

Cylinders shall neither be oven dried nor compressive tested in the moist condition.

08 CLEANUP: Upon completion of work, all excess material resulting from the installation of the Elastizell concrete shall be cleared from the job site.



The Elastizell Corporation has provided material for quality floor fill installations for over 30 years. We have a national network of qualified and approved applicators who have been trained in proper installation techniques. Each applicator is capable of working directly with the owner and builder to achieve a quality installation within the time and budget constraints of their projects.

As a trained engineer, and having worked with the Elastizell material and organization since 1960, I am proud and pleased to be able to offer this quality product and expert workmanship which serves the industry.

We will continue to make every effort to earn your trust and confidence and to produce the highest quality product and installation available.

Sincerely,

Leo Legatski

Leo Legatski, *President*
Elastizell Corporation
of America

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