PERLITE INSULATING CONCRETE

FLOOR FILLS

HEATED SLABS ON GRADE

UNHEATED SLABS ON GRADE

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Perlite LIGHTWEIGHT INSULATING CONCRETE

FLOOR FILLS

One of the most effective ways to reduce the dead load in multi-story buildings is to lighten the weight of the floors. Laboratory tests and field investigations have shown that perlite/sand concrete is suitable for use over structural concrete and various types of light structural forms such as corrugated steel, rib steel or cellular steel floor units and plywood subfloors. The compressive and indentation strengths of perlite/sand concrete are adequate for its use as a base for any of a wide variety of floor materials such as resilient tile, ceramic tile, linoleum, terrazzo, hardwood or carpeting.

Floor fills have been designed with dry densities from 60 to 100 lbs/ft^3 (960-1600 kg/m^3)* using varying combinations of perlite concrete aggregate and conventional concrete sand. (Note: Sand and gravel concrete weighs 140-150 lbs/ft^3, 2240-2400 kg/m^3). Table 3 covers the range of mixes and properties possible with various combinations of perlite and sand. Because of local variations in sand, trial mixes are recommended. Desired slump is generally between 3 to 6 inches (76.2-152.4mm) although wetter mixes are common where properties have been verified by trial mixes. (Table 3)

Air entraining admixtures are used in perlite/sand concrete mixtures to improve workability, reduce segregation and entrain air. Air entraining admixtures must be carefully controlled to accomplish the desired results without reducing the strength of the concrete. (Table 3)

Size and position of reinforcement will be in accordance with the design of the structure. Generally, welded wire reinforcement is not necessary when the perlite/sand concrete is placed over a permanent plywood base, as in wood frame construction.

Perlite/sand concrete may be placed by any conventional method including pumping. Where the concrete is to be supplied by transit mix trucks, the procedures noted in Perlite Institute Technical Data Sheet 4-3 should be observed. A slight loss of yield can be expected where the perlite/sand concrete is pumped into place. When poured, perlite/sand concrete should be screeded and floated to the desired level. A steel float finish is usually satisfactory as a base for carpet, tile, or terrazzo, and a steel trowel finish is usually required for resilient tile or linoleum type floor covering. If the floor is to be exposed to abrasion or heavy traffic, a topping of structural concrete is recommended.

Finishing time will depend on job conditions. If trial batches show finish time too slow the time should be adjusted by the use of high-early strength cement or accelerators. (Caution: Calcium chloride is not recommended where concrete is in contact with galvanized steel.) When the perlite/sand concrete is ready for trowelling the feel and sound will be very similar to conventional concrete. (Note: Machine finishing may be impractical on lower density mixes.)

Proper curing of perlite/sand concrete will minimize shrinkage cracks and will assure that adequate strength is developed. Addition of curing water is not normally required, but the fresh concrete should be protected from rapid drying and from traffic for at least three (3) days.

Note: *All values in this brochure are expressed in both U.S. and SI systems of measurement.

Contraction and isolation joints should be installed in accordance with established practice for heavyweight concrete. Isolation joints are required around all columns, footings and slab peripheries.

CONTROL OF NOISE

Certified laboratory reports have confirmed the effectiveness of perlite/sand concrete in floor-ceiling systems designed to control unwanted noise. Results are comparable to heavyweight concrete and the saving in dead load is as high as 50%. Tests show excellent sound control of both air-borne and impact sound. (Table 1.)

The principles of airborne and impact noise are distinctly different. Airborne noise is produced by a sound source, such as a human voice or a musical instrument. These airborne sound waves radiate from the source until they strike a floor or ceiling which is set into vibration by fluctuating pressure of the sound wave. Because the floor or ceiling vibrates, it radiates sound into the air on the other side. Impact noise is caused by an object striking or sliding on a floor, such as footsteps, moving furniture or a door slamming. It can also be caused by an appliance, such as a dishwasher or shower, which transmits its vibration to the building structure.

GUIDE SPECIFICATION

SECTION 03 _____

PERLITE/SAND CONCRETE FLOOR FILLS

PART 1 – GENERAL

1.01 SCOPE

The contractor (floor fill applicator) shall furnish all labor, materials and equipment for installing the perlite/sand concrete fill. The installation shall be in accordance with the recommendations of the current Perlite Design Manual as published by Perlite Institute, Inc. and applicable drawings.

1.02 WORK BY OTHERS

Corrugated, rib, or cellular steel floor units, plywood sub floors or other material shall be provided by others.

1.03 QUALITY ASSURANCE

Upon completion of the perlite/sand concrete work, the perlite aggregate manufacturer and the floor fill applicator shall furnish to the architect the following certificate: "This certifies that the perlite/sand concrete installed at _____ on _____ by _____ was prepared and applied by above approved applicator in accordance with specifications of Perlite Institute, Inc. in effect on date of installation."

PART 2 – PRODUCTS

2.01 MATERIALS

(a) Cement. Shall conform to ASTM C150*, Type I or Type III.

(b) Perlite aggregate. Shall conform to ASTM C 332*, Group I and shall be a product of a member of Perlite Institute or approved equal.

(c) Sand. Shall conform to ASTM C 33*.

(d) Air Entraining Agent. Shall be as recommended by the perlite producer.

(e) Water. Shall be clean and free of deleterious substances.

(f) Reinforcing Mesh. Shall be style 2160-2-1619* galvanized mesh or 48-1214* galvanized welded wire fabric.

*Equivalent International Standards are acceptable.

2.02 CONCRETE PHYSICAL PROPERTIES

The perlite/sand concrete shall have an air dry density of _____ * lb/ft^3 (kg/m^3) and a minimum compressive strength of _____ lbs/in.^{2} (kPa) at 28 days. Thickness of perlite/sand concrete shall be as shown on the drawings. Note: 1½ in (38.1 mm) minimum thickness recommended.

PART 3 – EXECUTION

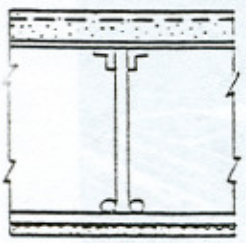
3.01 APPLICATION

The perlite/sand concrete shall be installed by a properly equipped and trained applicator or under the direction of the perlite manufacturer. The perlite/sand concrete shall be screeded to an even surface and all depressions left by screeds and supports shall be filled and leveled to the adjacent surfaces. Surface shall then be floated with a wood float. Floating shall be followed by steel trowelling after perlite/sand concrete has set and shall be steel trowelled until it is smooth and free from defects and blemishes.

*Select from Table 3 or use data developed through trial mixes.

TABLE 1. – SOUND TRANSMISSION DATA*

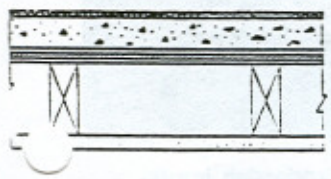
STEEL FORM UNITS



2½ in. (63.5 mm) perlite/sand concrete (72 lb/ft^3, 1152 kg/m^3) on 28 ga. steel form units supported by bar joists. Ceiling: ¾ in. (19.05 mm) perlite-gypsum plaster on metal lath tied to ¾ in. (19.05 mm) furring channels attached to bottom chord of joists 13½ in. (343 mm) o.c.

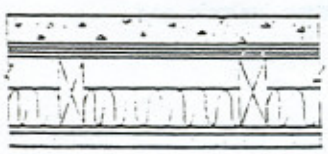
SOUND TRANSMISSION CLASS		IMPACT NOISE RATING
48		-14
48	with carpeting	-8

PLYWOOD SUBFLOORS



1-5/8 in. (41.28 mm) perlite/sand concrete (75 lb/ft^3, 1200 kg/m^3) on polyethylene film and 5/8 in. (15.9 mm) tongue and groove plywood supported by 2 x 8 in. (50.8 x 203.2 mm) or 2 x 10 in (50.8 x 254 mm) wood joists 16 in. (406.4 mm) o.c. Ceiling: 5/8 in. (15.9 mm) gypsum board nailed to joists.

SOUND TRANSMISSION CLASS		IMPACT NOISE RATING
47	with carpeting	+15

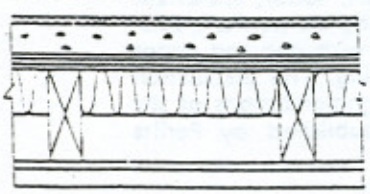


1-5/8 in. (41.28 mm) perlite/sand concrete (75 lb/ft^3, 1200 kg/m^3) on polyethylene film and 5/8 in. (15.9 mm) tongue and groove plywood supported by 2 x 8 in. (50.8 x 203.2 mm) or 2 x 10 in. (50.8 x 254 mm) wood joists 16 in. (406.4 mm) o.c. with 3 in. (76.2 mm) fiberglass blanket stapled between joists. Ceiling: 5/8 in. (15.9 mm) gypsum board screwed 12 in. (304.8 mm) o.c. to resilient channels attached to joists 24 in. (609.6 mm) o.c.

SOUND TRANSMISSION CLASS		IMPACT NOISE RATING
50		-4
53	with carpeting	+23

*From Kodaras Acoustical Laboratories

TABLE 2. – FIRE RATING



1 HOUR:
1-5/8 in. (41.28 mm) perlite/sand concrete (75 lb/ft^3, 1200 kg/m^3) on polyethylene film and 5/8 in. (15.9 mm) standard plywood supported by 2 x 10 in. (50.8 x 254 mm) wood joists 16 in. (406.4 mm) o.c. with 3 in. (76.2 mm) fiberglass blanket stapled between joists. Ceiling: 5/8 in. (15.9 mm) gypsum board screwed 12 in. (304.8 mm) o.c. to resilient channels attached to joists 24 in. (609.6 mm) o.c. (For details, see Underwriters' Laboratories Report No. R2453-7, Class E-1, No. L516)

TABLE 3. – PERLITE/SAND CONCRETE[1] TYPICAL PHYSICAL PROPERTIES AND MATERIAL MIX PROPORTIONS

Typical Air Dry Density lbs/ft^3	kg/m^3	Compressive Strength Range lbs/in^2	kPa	Wet Density When Placed lbs/ft^3	kg/m^3	Material Mix Proportions: Cement ft^3	m^3	Perlite ft^3	m^3	Sand ft^3	m^3	Water gal.	m^3	Air Entrainment ozs.	litres
65	1040	800-900	5520-6210	82±5	1312±80	1	1	3	3	2.2	2.2	11.2	1.61	*	*
75	1200	900-1200	6210-8280	80±5	1280±80	1	1	3	3	2.0	2.0	8.0	1.08	*	*
82	1312	1100-1300	7590-8970	98±5	1568±80	1	1	1.6	1.6	2.5	2.5	9.2	1.24	*	*
88	1408	2300-2500	15,870-17,250	105±5	1680±80	1	1	1.1	1.1	2.1	2.1	7.8	1.05	*	*
99	1584	2000-2200	13,800-15,180	110±5	1760±80	1	1	3	3	1.75	1.75	8.4	1.13	-	-

[1] Typical mixes; for laboratory certified mixes consult perlite aggregate producer.
* Air entraining agent. Neutralized vinsol resin or other air entrainment agent. Follow manufacturers recommendations.

Perlite LIGHTWEIGHT INSULATING CONCRETE

HEATED SLABS ON GRADE

The construction of buildings with concrete slab floors laid on the ground has two excellent approaches to the solution of building heating problems. One method is sub-floor panel heating consisting of warm water piping, low temperature electrical resistance elements or warm air structural clay tiles embedded in the slabs. The other is warm-air perimeter loop heating which employs warm air perimeter and feeder ducts embedded in the concrete floor.

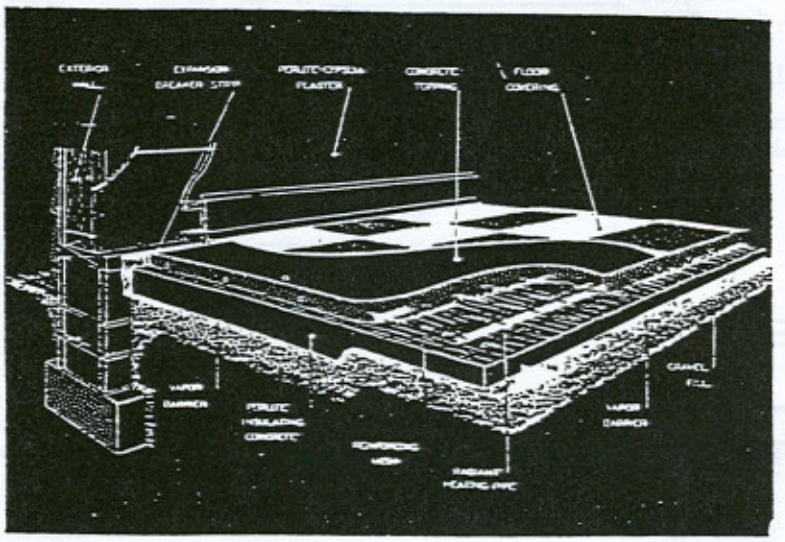
Both of these systems have given satisfactory performance with reference to uniformity of room air temperature and floor surface temperature patterns. However, the reverse heating loss, the heat loss downward into the ground and outward through the slab edge, is of great significance if the slab is not insulated properly. The operating economy of the heating system is greatly improved by underlaying the heating units with an insulating blanket of perlite concrete.

By placing radiant heat pipes over a perlite insulating concrete slab and topping with a structural concrete slab, it is possible to reduce under floor heat loss and the required heat input up to 25%. Similarly, the sub-slab heat loss from perimeter heating duct systems can be reduced more than 50% by embedding the perimeter and feeder ducts in perlite insulating concrete to 2/3 the depth of the duct. The top 1/3 of the ducts should be encased in structural concrete to take advantage of the paneling effect presented by the high conductivity of regular concrete.

In the summer when the heating systems are not in operation, the floor surface temperature of uninsulated slabs assumes the temperature of the ground which is cooler than the surrounding air. This temperature differential, together with high summer humidity, may result in the formation of annoying, unsanitary moisture condensation. Because perlite concrete insulates the floor surface from the cooler earth temperatures, the temperature differential is minimized and prevents condensation and its damaging effects.

For heated floor slabs on grade perlite insulating concrete having a typical oven dry density of 22 lbs/ft^3 (352 kg/m^3) is recommended. This mix provides excellent insulation and sufficient bearing capacity to provide a uniform base for the structural concrete topping. Perlite insulating concrete should always be covered by a minimum of 2 in. (50.8 mm) of reinforced structural concrete topping.

Snow melting by means of heating pipes embedded in concrete sidewalks and paving becomes more economically practicable if a sub-slab of perlite insulating concrete is placed under the pipes to reduce costly heat loss to the cold ground.



Perlite insulating concrete is the ideal underslab insulation; it is resistant to fungus, decay, mildew, vermin and moisture.

GUIDE SPECIFICATIONS

SECTION 03 _____

INSULATION FOR HEATED SLABS ON GRADE

PART 1 – GENERAL

1.01 SCOPE

The contractor shall furnish all plant, labor, materials, equipment and supervision for installing the perlite insulating concrete slab on grade, complete with slab bed, vapor barrier and structural concrete topping. The installation shall be in accordance with the recommendations of the current Perlite Design Manual as published by Perlite Institute, Inc. and applicable drawings.

1.02 WORK BY OTHERS

Warm water piping, warm air perimeter loop heating, low temperature electrical resistance elements or other material shall be provided by others.

1.03 QUALITY ASSURANCE

Upon completion of the perlite concrete work, the perlite aggregate manufacturer and the applicator shall furnish to the architect the following certificate: "This certifies that the perlite concrete installed at _____ on _____ by _____ was prepared and applied by above approved applicator in accordance with specifications of Perlite Institute, Inc. in effect on date of installation."

PART 2 – PRODUCTS

2.01 MATERIALS

(a) Cement. Shall conform to ASTM C-150*, Type 1 or Type III.

(b) Perlite Aggregate. Shall conform to ASTM C-332*, Group I and shall be a product of a member of the Perlite Institute or approved equal.

(c) Air Entraining Agent. Shall be as recommended by the perlite producer.

(d) Water. Shall be clean and free of deleterious substances.

(e) Control Joints. Shall be a highly compressible material such as glass fiber which will compress to one-half its thickness under a load of 25 lbs/in.^{2} (172 kPa) and shall be installed where indicated.

*Equivalent International Standards are acceptable.

2.02 CONCRETE PHYSICAL PROPERTIES

The perlite concrete shall have a maximum oven dry density of _____ *lb/ft^3 (kg/m^3) and a minimum compressive strength of _____ * lbs/in.^{2} (kPa) at 28 days. Thickness of the perlite concrete shall be as shown on the drawings. (Note: 2 in. (50.8 mm) minimum thickness recommended)

PART 3 – EXECUTION

3.01 APPLICATION

The perlite concrete shall be installed by a properly equipped and trained applicator or under the direction of the perlite manufacturer. The perlite concrete shall be screeded to an even surface.

*Select from Table 4.

The curve below shows the relationship of thermal conductivity to density of concrete. As density decreases, there is a significant increase in the insulating efficiency of concrete. Perlite insulating concrete falls within the range of 20-50 lb/ft^3 (320-800 kg/m^3). Perlite/sand concrete lies in the range of 50-110 lb/ft^3 (800-1760 kg/m^3).

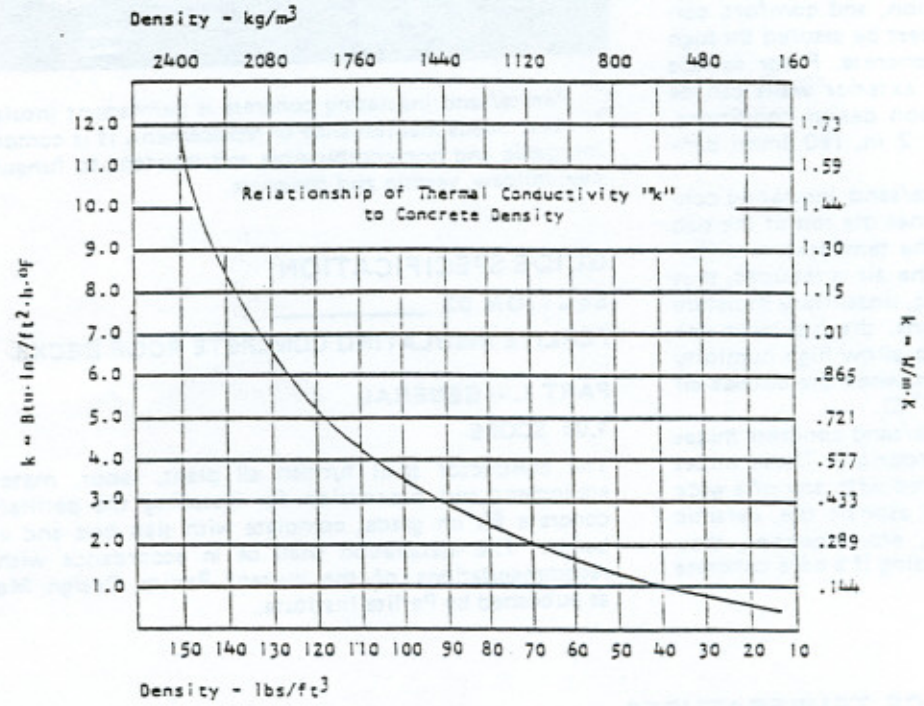


TABLE 4. TYPICAL PHYSICAL PROPERTIES OF PERLITE CONCRETE▲

Oven Dry Density		Dry Density Range		Thermal Conductivity Range "k" ▲▲		Compressive Strength Range		Minimum Compressive Strength		Wet Density When Placed	
lbs/ft³	kg/m³	lbs/ft³	kg/m³	Btu·in./ h·ft²·°F	W/m·K	lbs/in²	kPa	lbs/in²	kPa	lbs/ft³	kg/m³
36.0	576	34.0-40.0	544-640	0.72-0.85	0.10-0.12	350-500	2413-3447	350	2413	50.5±2.0	808.0±32.0
30.5	488	28.0-34.0	448-544	0.61-0.72	0.09-0.10	230-340	1585-2344	230	1585	45.5±2.0	728.0±32.0
27.0	432	24.0-28.0	384-448	0.54-0.61	0.08-0.09	140-200	965-1378	140	965	40.5±2.0	648.0±32.0
22.0	352	20.0-24.0	320-384	0.47-0.54	0.07-0.08	80-125	552-861	80	552	36.5±2.0	584.0±32.0

▲ Pittsburgh Testing Laboratory & R. W. Hunt Company Engineers
▲▲ Armour Research Foundation of Illinois Institute of Technology

Perlite LIGHTWEIGHT INSULATING CONCRETE

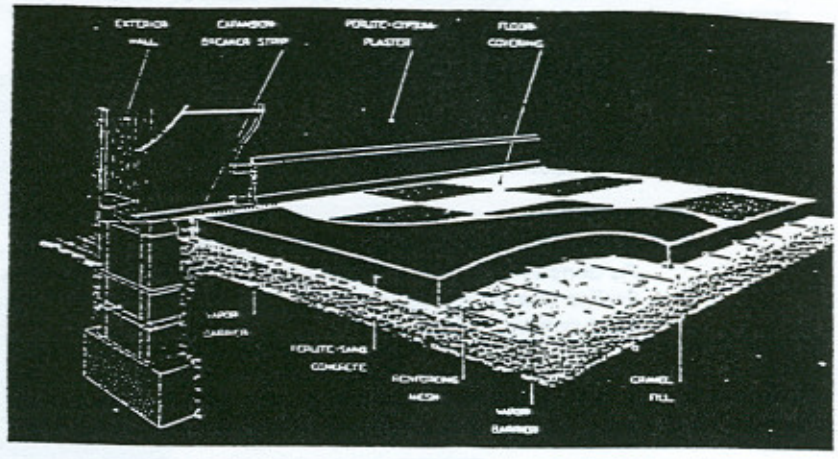
UNHEATED SLABS ON GRADE

The increased economy and convenience of floor slab on grade construction has resulted in extensive use of this system in industrial, commercial, school and residential construction. However, coupled with its many advantages is the necessity for special insulation to prevent cold floors and condensation.

Heat loss of the unheated floor slab on grade comprises about 10% of the over-all building heat loss. From the standpoint of economy, energy conservation, and comfort, correct insulation is essential. This can best be assured through the use of perlite/sand insulating concrete. Floor surface temperatures 2 ft. (.66m) from the exterior walls can be increased up to 35%, depending upon design conditions. At the same time, the necessity for 2 in. (50.8mm) perimeter insulation is eliminated.

An additional advantage of perlite/sand insulating concrete slabs is that in hot, humid weather the top of the slab is insulated from the cool ground. The temperature differential between the slab surface and the air is reduced, thus minimizing the formation of annoying, unsanitary moisture condensation. Under winter conditions, the insulated slab surface temperature is high enough to allow high humidity conditions without condensation even when the outside air temperature is well below 0° F (−17.7°C).

For unheated slabs on grade, perlite/sand concrete mixes shown in Table 3 are generally appropriate. These mixes require no additional topping if covered with any of a wide variety of flooring materials such as asphalt tile, ceramic tile, linoleum, terrazzo, hard wood, etc. However, they should receive a regular concrete topping if a bare concrete floor is desired.



Perlite/sand insulating concrete is permanent insulation; it never needs maintenance or replacement. It is completely inorganic and non-combustible and resistant to fungus, decay, mildew, vermin and moisture.

GUIDE SPECIFICATION

SECTION 03 _____

PERLITE INSULATING CONCRETE ROOF DECKS

PART 1. — GENERAL

1.01 SCOPE

The contractor shall furnish all plant, labor, materials, equipment and supervision for installing the perlite/sand concrete fill on grade, complete with slab bed and vapor barrier. The installation shall be in accordance with the recommendations of the current Perlite Design Manual as published by Perlite Institute.

TABLE 5. — FLOOR SURFACE TEMPERATURES

TEMPERATURE				Floor Surface Temperatures and Maximum Humidity[1]					
				4 in. (101.6 mm) Perlite/sand concrete			4 in. (101.6mm) Structural Concrete		
Mean Outside Air		Under Floor Fill Surface		Floor Surface Temperature		Maximum R.H. (%) without Condensation	Floor Surface Temperature		Maximum R.H. (%) without Condensation
°F	°C	°F	°C	°F	°C		°F	°C	
-5	-20.6	22.3	-5.4	55.8	13.2	61.0	41.2	5.1	35.0
25	-3.9	30.4	-0.9	58.2	14.6	66.0	45.9	7.7	42.0
52	11.1	52.6	11.4	64.8	18.2	84.0	59.5	15.3	71.0
85	29.4	75.0	23.9	71.5	22.0	93.0	73.0	22.8	91.0

1. Based on 70°F (21.1°C) inside air temperature and floor covered with asphalt tile.

PART 2 – PRODUCTS

2.01 MATERIALS

(a) Cement. Shall conform to ASTM C-150*, Type 1 or Type III.
(b) Perlite Aggregate. Shall conform to ASTM C-332*, Group I and shall be a product of a member of the Perlite Institute or approved equal.
(c) Air Entraining Agent. Shall be as recommended by the perlite producer.
(d) Water. Shall be clean and free of deleterious substances.
(e) Control Joints. Shall be a highly compressible material such as glass fiber which will compress to one-half its thickness under a load of 25 lbs/in.^{2} (172 kPa) and shall be installed where indicated.

*Equivalent International Standards are acceptable.

2.02 CONCRETE PHYSICAL PROPERTIES

The perlite concrete shall have a maximum oven dry density of _____ *lb/ft^3 (kg/m^3) and a minimum compressive strength of _____ * lbs/in.^{2} (kPa) at 28 days. Thickness of the perlite concrete shall be as shown on the drawings. (Note: 2 in. (50.8 mm) minimum thickness recommended)

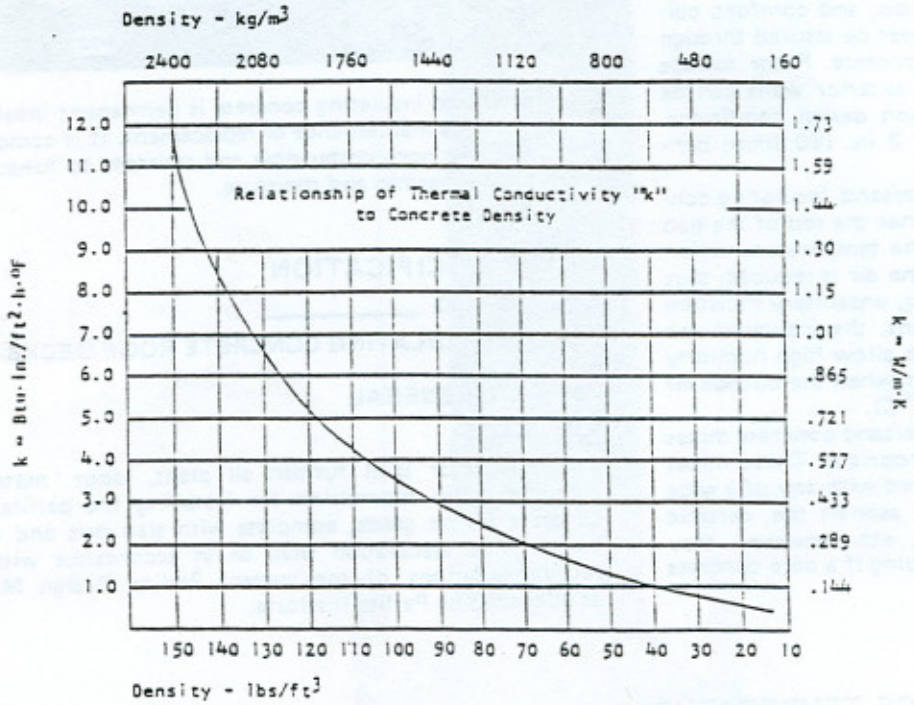
PART 3 – EXECUTION

3.01 APPLICATION

The perlite concrete shall be installed by a properly equipped and trained applicator or under the direction of the perlite manufacturer. The perlite concrete shall be screeded to an even surface.

*Select from Table 4.

The curve below shows the relationship of thermal conductivity to density of concrete. As density decreases, there is a significant increase in the insulating efficiency of concrete. Perlite insulating concrete falls within the range of 20-50 lb/ft^3 (320-800 kg/m^3). Perlite/sand concrete lies in the range of 50-110 lb/ft^3 (800-1760 kg/m^3).



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Oven Dry Density		Dry Density Range		Thermal Conductivity Range "k" ▲▲		Compressive Strength Range		Minimum Compressive Strength		Wet Density When Placed	
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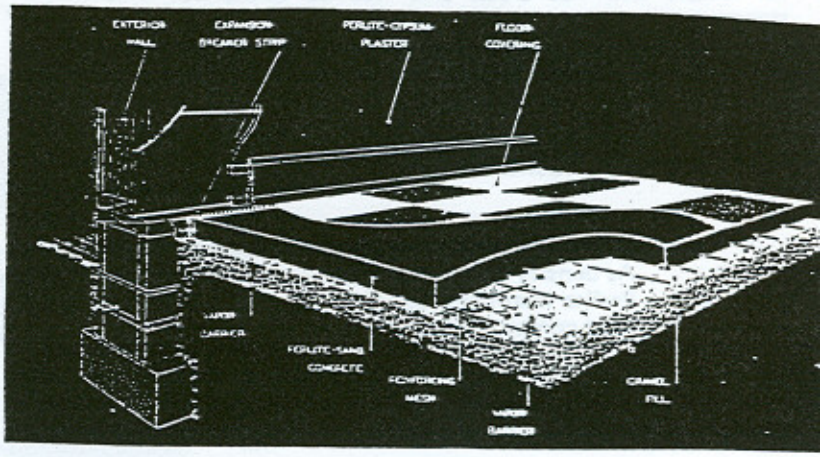
Heat loss of the unheated floor slab on grade comprises about 10% of the over-all building heat loss. From the standpoint of economy, energy conservation, and comfort, correct insulation is essential. This can best be assured through the use of perlite/sand insulating concrete. Floor surface temperatures 2 ft. (.6m) from the exterior walls can be increased up to 35%, depending upon design conditions. At the same time, the necessity for 2 in. (50.8mm) perimeter insulation is eliminated.

An additional advantage of perlite/sand insulating concrete slabs is that in hot, humid weather the top of the slab is insulated from the cool ground. The temperature differential between the slab surface and the air is reduced, thus minimizing the formation of annoying, unsanitary moisture condensation. Under winter conditions, the insulated slab surface temperature is high enough to allow high humidity conditions without condensation even when the outside air temperature is well below 0° F (−17.7°C).

For unheated slabs on grade, perlite/sand concrete mixes shown in Table 3 are generally appropriate. These mixes require no additional topping if covered with any of a wide variety of flooring materials such as asphalt tile, ceramic tile, linoleum, terrazzo, hard wood, etc. However, they should receive a regular concrete topping if a bare concrete floor is desired.



Perlite/sand insulating concrete is permanent insulation; it never needs maintenance or replacement. It is completely inorganic and non-combustible and resistant to fungus, decay, mildew, vermin and moisture.

GUIDE SPECIFICATION

SECTION 03 _____

PERLITE INSULATING CONCRETE ROOF DECKS

PART 1. – GENERAL

1.01 SCOPE

The contractor shall furnish all plant, labor, materials, equipment and supervision for installing the perlite/sand concrete fill on grade, complete with slab bed and vapor barrier. The installation shall be in accordance with the recommendations of the current Perlite Design Manual as published by Perlite Institute.

TABLE 5. – FLOOR SURFACE TEMPERATURES

TEMPERATURE				Floor Surface Temperatures and Maximum Humidity[1]					
				4 in. (101.6 mm) Perlite/sand concrete			4 in. (101.6mm) Structural Concrete		
Mean Outside Air		Under Floor Fill Surface		Floor Surface Temperature		Maximum R.H. (%) without Condensation	Floor Surface Temperature		Maximum R.H. (%) without Condensation
°F	°C	°F	°C	°F	°C		°F	°C	
-5	-20.6	22.3	-5.4	55.8	13.2	61.0	41.2	5.1	35.0
25	-3.9	30.4	-0.9	58.2	14.6	66.0	45.9	7.7	42.0
52	11.1	52.6	11.4	64.8	18.2	84.0	59.5	15.3	71.0
85	29.4	75.0	23.9	71.5	22.0	93.0	73.0	22.8	91.0

1. Based on 70°F (21.1°C) inside air temperature and floor covered with asphalt tile.

1.02 WORK BY OTHERS

Other material shall all be provided by others.

1.03 QUALITY ASSURANCE

Upon completion of the perlite/sand concrete work, the perlite aggregate manufacturer and the applicator shall furnish to the architect the following certificate: "This certifies that the perlite/sand concrete installed at _____ _____ by _____ was prepared and applied by above approved applicator in accordance with specifications of Perlite Institute, Inc. in effect on date of installation."

PART 2 – PRODUCTS

2.01 MATERIALS

(a) Cement. Shall conform to ASTM C150*, Type I or Type III.
(b) Perlite Aggregate. Shall conform to ASTM C 332*, Group I and shall be a product of a member of Perlite Institute or approved equal.
(c) Sand. Shall conform to ASTM C33*.
(d) Air Entraining Agent. Shall be as recommended by the perlite producer.
(e) Water. Shall be clean and free of deleterious substances.
(f) Reinforcing Mesh. Shall be style 2160-2-1619* galvanized mesh or 48-1214* galvanized welded wire fabric.

*Equivalent International Standards are acceptable.

2.02 CONCRETE PHYSICAL PROPERTIES

The perlite/sand concrete shall have an air dry density of _____ * lb/ft^3 (kg/m^3) and a minimum compressive strength of _____ *psi (kPa) at 28 days. Thickness of the perlite/sand concrete shall be as shown on the drawings. (Note: 4 in. (101.6 mm) minimum thickness recommended.)

PART 3 – EXECUTION

3.01 APPLICATION

The perlite/sand concrete shall be installed by a properly trained and equipped applicator or under the direction of the perlite manufacturer. The perlite/sand concrete shall be trowelled to an even surface and all depressions left by screeds and supports shall be filled and leveled to adjacent surfaces. Surface shall then be floated with a wood float and followed by steel trowelling after perlite/sand concrete has set. Surface shall be steel trowelled until it is smooth and free from defects and blemishes.

*Select from Table 3 or use data developed through trial mixes.