

## AERLITE™ FAMILY

### LOW DENSITY CELLULAR CONCRETE

#### I. GENERAL

##### I.1 DESCRIPTION

###### I.1.1 Work Included:

(A) This work shall consist of batching, mixing and placing AERLITE™ LDCC of the appropriate type as indicated on the plans or as directed by the engineer.

###### I.1.2 Work not included but related to the LDCC:

(A) Excavation and preparation of the site for LDCC

(B) Installation of any utilities or services within the LDCC

(C) Final surface waterproofing (optional) over the LDCC and any subsequent structural concrete slab or pavement

##### I.2 QUALITY ASSURANCE

I.2.1 Use skilled labor who are thoroughly trained, experienced and familiar with the specified requirements and the methods for proper performance of this work.

I.2.2 The approved subcontractor, supplier, and producer of the LDCC shall be approved in writing by Aerix Industries™

I.2.3 The specialized batching, mixing and placing equipment shall be approved for the purpose by Aerix Industries™

##### I.3 SUBMITTALS

I.3.1 The prime contractor shall list the product and qualified producer of the LDCC and shall not employ any product or producer without the prior approval of the engineer.

I.3.2 Product data: within 30 (option 15) calendar days after award of the contract, prime contractor shall submit for approval by the engineer:

(A) Manufacturer's specifications, catalog cut sheet and other engineering data needed to demonstrate to the issuing authority compliance with the specified requirements.

(B) Written approval of the approved subcontractor and the approved equipment by Aerix Industries™.

#### 2. PRODUCTS

##### 2.1 MATERIALS

2.1.1 Provide the AERLITE™ LDCC as specified.

2.1.2 Cement: the Portland cement shall comply with ASTM C150 Type I, II, or III. Pozzolons and other cementitious materials may be used when specifically approved by Aerix Industries™.

**Aerix Industries™**  
Advanced Engineered Foam Solutions



# SPECIFICATIONS

2.1.3 Admixtures: admixtures for accelerating, water reducing, and other specific properties may be used when specifically approved by Aerix Industries™.

2.1.4 Water: use water which is potable and free from deleterious amounts of alkali, acid and organic materials which would adversely affect the setting or strength of the LDCC.

2.1.5 Expansion Material: AERLITE™ family of foaming agents manufactured by Aerix Industries™.

## 2.2 PROPERTIES

2.2.1 Typical LDCC properties:

	CATEGORY		
	II	III	IV
Maximum Cast Density, pcf	30	36	42
Minimum Compressive Strength, psi	40	80	120
Freeze Thaw Resistance, Cycles Relative E not less than 70% per ASTM C666, modified	330	-	330
Shear Modulus, G, psi per ASTM D4015 at confining stress of 3 psi	27,670	41,800	50,260
Young's Modulus, E, psi based on Poisson's Ratio $\nu=0.22$ and $E=2G(1+\nu)$	67,500	101,900	122,635
% Water Absorption, after 120 days, maximum	20	16	14
Coefficient of Permeability, k cm/sec.			
Confining stress, 2.5 psi	4.7x10 <sup>-5</sup>	-	1.5x10 <sup>-6</sup>
Confining stress, 18 psi	1.9x10 <sup>-5</sup>	-	5.4x10 <sup>-7</sup>

## 3. EXECUTION

### 3.1 SUBGRADE CONDITION

3.1.1 Examine the areas and conditions under which work of this section will be performed. Correct conditions detrimental to timely and proper completion of the work. Do not proceed until satisfactory conditions are established.

3.1.2 The area to be filled shall not have any standing water in it prior to placement of LDCC.

3.1.3 Any items to be encased in the LDCC shall be properly set and stable prior to the installation of LDCC

### 3.2 WEATHER CONDITION

3.2.1 Avoid freezing before initial set of LDCC.

3.2.2 Do not place at temperatures lower than 32 degrees Fahrenheit or when freezing conditions are expected in less than 24 hours.



# SPECIFICATIONS

3.3.1 If these conditions cannot be met, consult Aerix Industries™ and determine precautions necessary to assure installation on acceptable LDCC.

## 3.3 MIXING AND CONVEYING

3.3.1 Using only the approved job site proportioning, mixing and placing equipment approved by Aerix Industries™, mix the materials according to the mix design and convey promptly to the location of final placement.

3.3.2 Avoid excessive handling of the LDCC.

3.3.3 Place LDCC in lifts in accordance to specification, unless otherwise recommended by Aerix Industries™ and approved by the engineer.

3.3.4 The final surface finish shall be within  $\pm 0.1$  feet of the plan elevation.

3.3.5 Backfill or other unusual loadings on the LDCC shall not be permitted until the LDCC has attained a compressive strength of at least 20 psi

## 4. TESTING

### 4.1 WET DENSITY

4.1.1 During placement of the batches, check the density and adjust the mix as required to obtain the specified cast density at the point of placement.

4.1.2 At hourly intervals during placing, monitor the density and adjust as necessary to maintain the specified cast density.

## 5. MEASUREMENT AND PAYMENT

### 5.1 MEASUREMENT

5.1.1 Lightweight LDCC shall be measured on a cubic yard basis.

### 5.2 PAYMENT

5.2.1 Payment for LDCC shall be made at contract unit prices for quantities determined as specified above.

ITEM NO.

PAYMENT ITEM

UNIT

LDCC

CY

