



T E C H N I C A L B U L L E T I N

**MIX DESIGN FOR LOW DENSITY CELLULAR CONCRETE MADE IN A READY MIX TRUCK**

<b>MATERIAL</b>	<b>LBS.</b>	<b>CF</b>
cement	94	0.480
sand (dry)	24	0.145
water	<u>53</u>	0.850
	171.00	1.475
Foam	<u>9.47</u>	<u>3.36</u>
<b>TOTAL</b>	180.47	4.511

$$40 = \frac{171 + 3.12vf}{1.45 + vf} \qquad \text{Check: } 40 \text{ pcf} = \frac{180.47}{4.511}$$

$$59 + 40 vf = 171 + 3.12 vf$$

$$36.88 \quad vf = 112$$

$$vf = 3.306$$

No foam grout factor:

$$\frac{1 \text{ cy or } 27 \text{ cf} = 18.3}{1.475 \text{ cf}}$$

No foam grout to foamed grout factor:

$$\frac{4.511 \text{ total cf} = 3.058}{1.475 \text{ cf}}$$

**NO FOAM GROUT:**

<b>MATERIAL</b>	<b>LBS.</b>	<b>CF</b>
cement	1720.2	8.776
sand (dry)	439.2	2.662
water	<u>969.9</u>	<u>15.543</u>
	3,129.3	26.981
Foam	<u>173.3</u>	<u>55.588</u>
<b>TOTAL</b>	3302.6	82.569

$$\text{Check: } \frac{3302.6}{82.567} = 40 \text{ pcf}$$

One Nominal CY of no foam grout:

cement	1720
sand (dry)	439
water	970

Therefore: 1 CY of no foam grout plus 55.6 cf of foam yields 82.6 cf or 3.1 cy of foamed grout at 40 pcf.

For a 10 CY READY MIX TRUCK, use 3.2 (10 / 3.1) times the above, that is 3.2 times the nominal no foam grout, plus 3.2 times 55.6 CF or 178.3 CF of foam to yield (3.2)(3.1) = 10 CY of foamed grout at 40 pcf (wet density).

$$\text{cement factor} \quad \frac{(3.2)(1720)}{(94)(10.0)} = 5.8 \text{ sacks/cy (545 lb.)}$$

This mix design should only be pumped with a Moyno (Rotor/Stator) progressive cavity type pump.

Compressive Strength at 28 days, 200 psi.

FC702-0200 DRAFT