CONCRETE MIX DESIGN - MIX DESIGN CALCULATIONS

MIX NO. __________ DESIGNED BY ____________________________ DATE __________

DESIGNED FOR ______ % ENTRAINMENT AIR  DESIGNED FOR ______ INCH PENETRATION

SPEC. GR. TYPE II MODIFIED CEMENT 3.15  SPEC. GR. TYPE IP (MS) MODIFIED CEMENT _________ SPEC. GR. MINERAL ADMIX ________

W = TOTAL WEIGHT OF WATER = ___________ lb/cy (MAXIMUM ALLOWABLE = _______ lb/cy)

C = TOTAL WEIGHT OF TYPE II MODIFIED CEMENT ___________ lb/cy OR TYPE IP (MS) MODIFIED CEMENT _______

X = TOTAL WEIGHT OF MINERAL ADMIXTURE USED TO REPLACE REQUIRED PORTLAND CEMENT

Vw = ABSOLUTE VOLUME OF WATER = \( \frac{W \text{ lb/cu yd}}{62.4 \text{ lb/cu ft}} \) = ____________

Vc = ABSOLUTE VOLUME OF CEMENT = \( \frac{C \text{ lb/cu yd}}{(\text{SPEC. GRAVITY CEMENT})(62.4 \text{ lb/cu ft})} \) = ____________ cu ft/cu yd

Vx = ABSOLUTE VOLUME OF MINERAL ADMIXTURE = \( \frac{X \text{ lb/cu yd}}{(\text{SPEC. GRAVITY MINERAL ADMIX})(62.4 \text{ lb/cu ft})} \) = ____________ cu ft/cu yd

Va = ABSOLUTE VOLUME OF AIR = (% AIR) 27 cu ft/cu yd = ____________ cu ft/cu yd

K = ABSOLUTE VOLUME OF AGGREGATES (SSD) = 27.0 - Vw - Vc - Vx - Va = ____________ cu ft/cu yd

TYPE AND AMOUNT OF CHEMICAL OR AIR ENTRAINING ADMIXTURE USED ____________

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>NOMINAL SIZE</th>
<th>USED %</th>
<th>ABSOLUTE VOLUME ((1 \times X)) cu ft/cu yd</th>
<th>DENSITY lb/cu ft</th>
<th>SSD WEIGHT ((2 \times 3)) lb/cu yd</th>
<th>MOISTURE %</th>
<th>WATER IN AGGREGATE ((4 \times 5)/100) lb/cu yd</th>
<th>AGGREGATE STOCKPILE WEIGHT ((4 + 6)) lb/cu yd</th>
<th>SCALE WEIGHT W, C, X OR 7 lb/cy</th>
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TOTAL WEIGHT OF ADDED MIXER WATER = \( (W - X) \) = ____________ lb/cu yd

TOTAL WEIGHT OF CEMENT = \( C \) = ____________

TOTAL WEIGHT OF MINERAL MIXTURES = \( X \) = ____________

TOTAL WEIGHT OF ONE CY MIX = ____________

FILE CATEGORY 43.2