**Table 1. Concrete Mix Design Form (BRE method) Job title:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **stage** | **item** |  | **Reference or**  **calculation** | **Values** | | | |
|  |  |  |  |  | | | |
| 1 | 1.1 | Characteristic strength | Specified | ................................N/mm2 at.....................................days  Proportion defective ..........................................................% | | | |
|  | 1.2 | Standard deviation | Fig. 3 | ....................................... N/mm2 or no data ............. N/mm2 | | | |
|  | 1.3 | Margin | C1 | (k=.............) ..................**x**..................**=**......................N/mm2 | | | |
|  |  |  | Specified | ................. N/mm2 | | | |
|  | 1.4 | Target mean strength | C2 | .............................**+**.....................**=**.................... .........N/mm2 | | | |
|  | 1.5 | Cement strength class | Specified | 42.5/52.5 | | | |
|  | 1.6 | Aggregate type: coarse  Aggregate type: fine |  | Crushed/Uncrushed  Crushed/Uncrushed | | | |
|  | 1.7 | Free-water/cement ratio | Table 2, Fig. 4 | ............................... | Use the lower value ................ | | |
|  | 1.8 | Max. Free water/cement ratio | Specified | ............................... |
| 2 | 2.1 | Slump or VeBe time | Specified | Slump .....................mm or VeBe time................................s | | | |
|  | 2.2 | Max. Aggregate size | Specified | .........................mm | | | |
|  | 2.3 | Free-water content | Table 3 | ......................................................................................kg/m3 | | | |
| 3 | 3.1 | Cement content | C3 | ......................... **/** ............................. **=** ....................... kg/m3 | | | |
|  | 3.2 | Maximum Cement content | Specified | ..............................kg/m3 |  | | |
|  | 3.3 | Minimum Cement content | Specified | ..............................kg/m3 |
|  | | | Do not use less than 3.3 or more than 3.2 ........................................ kg/m3 | | | | |
|  | 3.4 | Modified free-water/cement ratio | .......................................................................................................................... | | | | |
| 4 | 4.1 | Relative density of  aggregate (SSD) |  | ...................................................................known/assumed | | | |
|  | 4.2 | Concrete density | Fig. 5 | .............................. kg/m3 | | | |
|  | 4.3 | Total aggregate content | C4 | .................... **-** ..................... **-** .................... **=** .............. kg/m3 | | | |
| 5 | 5.1 | Grading of fine aggregate | Percentage passing 600 micron sieve ...............................................................% | | | | |
|  | 5.2 | Proportion of fine aggregate | Fig. 6 | ......................................................................................% | | | |
|  | 5.3 | Fine aggregate content | C5 | ................................. **x** ............................ **=** .................kg/m3 | | | |
|  | 5.4 | Coarse aggregate content | ................................. **-**. ............................ **=** .................kg/m3 | | | |
|  | | | | | | | |
| **Quantities** | | **Cement**  **(kg)** | **water**  **(kg or lt)** | **Fine aggregate**  **(kg)** | **Coarse aggregate (kg)** | | |
| **10 mm** | **20 mm** | **40 mm** |
| Per m3 (to nearest 5 kg) | |  |  |  |  |  |  |
| Per trial mix of ............ m3 | |  |  |  |  |  |  |