

## RESTRICTED

### **SECTION 105-LEAN MIX ROLLED CONCRETE**

2357. This is a quick and economical method of producing rather weak concrete. It is used chiefly as a sub-base, but pneumatic tyre vehicles can pass over it soon after compaction is completed (See para 601). Surfacing is desirable to prevent penetration by water.

2358. Materials:

- a. Coarse aggregate – 2 in crushed stone or gravel. Best results are obtained with all in aggregate of 1 ½ in down. The grading band is important.
- b. Fine aggregate – Graded from  $\frac{3}{16}$  in down.
- c. Cement- Ordinary Portland cement.

2359. Proportions – Rule of thumb proportions are:

|                    |             |
|--------------------|-------------|
| Cement - -         | 1 cwt       |
| Fine aggregate - - | 5 cu ft     |
| Coarse aggregate – | 10 cu ft    |
| Water - -          | 7 to 8 gals |

Compaction trials should be carried out to determine the most suitable proportions and water/cement ratio. The mix should be as dry as possible, but enough water must be added to produce hydration, and to ensure workability.

2360. Method.

- a. Mix the materials in a drum type mixer.
- b. Spread the mix between side forms, which must be Strong enough to resist rolling.
- c. Spread and compact in layers not exceeding 5 ins finished thickness (12 ins if using a vibrating roller) Recommended sizes of roller are : -

Smooth wheel - - 2½ to 4 tons.

Vibrating -- 1½ to 3 tons.

Speed is essential. The whole operation should be completed within an hour.

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2361. Joints. Avoid joints as far as possible. When construction joints are necessary, leave each day work so as to make a vertical butt joint with the next day's work.

2362. Sealing coat. The following are suitable:

- a. A bituminous wearing surface.
- b. Surface dressing.
- c. 1:3 ½ cement/sand mortar, boomed into the surface and finished with a wood float or a belt.

2363. Curing. Some curing is essential. After applying the seal coat light wheeled traffic can be accepted after 24 emergencies these times may be reduced.