

FENWICK ENGINEERING TECHNOLOGY

**CONCRETE TECHNOLOGY AND PRODUCTION
PRACTICE**

BLOCK MACHINE MANUFACTURE - 1 DAY

This course CAN ONLY be attended after attending the course 'CONCRETE TECHNOLOGY AND BATCH PLANT DESIGN FOR PRECAST CONCRETE MANUFACTURE which is designed to precede this course.

COURSE OBJECTIVES

This course provides an in depth understanding of the following:

- * The main products produced on block machines Concrete Paving Blocks and Masonry blocks etc.
- * Semi-dry concrete technology applied to these products. and special techniques required to produce semi-dry concrete and related batch plant design.
- * Block machine operation and process technology - principles and practice.

by

FENWICK ENGINEERING TECHNOLOGY

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- 1. IMPORTANT PROCESS RELATED PROPERTIES OF PRODUCTS
TYPICALLY MANUFACTURED ON BLOCK MACHINES.**
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 - 1.2 BUILDING AND MASONRY BLOCKS
- 2. APPLICATION OF CONCRETE BLOCK PAVING**
 - 2.1 THE INFLUENCE OF SHAPE ON LOAD CARRYING CAPABILITY
 - 2.2 THE INFLUENCE OF THICKNESS ON LOAD CARRYING CAPABILITY
 - 2.3 SUB BASE DESIGN - a simple explanation.
 - 2.4 LAYING PRACTICE
- 3. SEMI-DRY CONCRETE TECHNOLOGY - A REVIEW**
 - 3.1 WATER/CEMENT RATIO
 - 3.2 CEMENT CONTENT
 - 3.2.1 CONCRETE PAVING BLOCKS - CONCRETE BLOCK PAVING
 - 3.2.2 BUILDING BLOCKS
 - 3.3 MINIMUM SURFACE AREA OF AGGREGATES IN A MIX
 - 3.4 COMPACTION
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 - 3.4.2 ADDITIVES AND COMPACTION
 - 3.5 COMPACTION AND QUALITY CONTROL
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 - 3.6.1 DESIGN PARAMETERS FOR SATISFACTORY CURING
 - 3.6.2 PRACTICAL SOLUTIONS
- 4. PROPERTIES OF FRESH SEMI-DRY CONCRETE - THE IMPORTANT
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6. CEMENT SUBSTITUTES AND THE SEMI-DRY PROCESS

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6.3 MICROSILICA

7. COLOURED CONCRETE AND THE SEMI-DRY PROCESS

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8.3 STORAGE OF AGGREGATES - AND MOISTURE COMPENSATION

8.4 COLOUR SYSTEMS

8.5 MIXING AND WATER CONTROL

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8.7 TRANSPORT AND STORAGE OF THE FINISHED BATCH

9. BLOCK MACHINES - FUNDAMENTALS OF MECHANICAL AND PROCESS OPERATION

9.1 DESCRIPTION AND MARKET

9.2 BASIC MACHINE PRINCIPLES

9.3 FACE MIX

9.4 WIPES

9.5 PALLETS

9.6 BOTTOM PLATE

9.7 MOULDS

9.8 MOULD SPECIFICATION AND PRODUCTION TECHNOLOGY

9.9 MOULD LOCATION IN THE BLOCK MACHINE

9.10 MOULD AND TAMPER BEAD SUSPENSION SYSTEMS

9.11 VIBRATION SYSTEMS

9.12 PRINCIPLES AND SET-UP OF VIBRATION SYSTEMS

9.13 PRE-VIBRATION FOR FILLING AND MAIN VIBRATION

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9.15.2 PROCESS ADJUSTMENTS TO ACHIEVE AN EVEN FILL.

9.15.3 OSCILLATION SETTINGS

9.15.4 AGITATORS AND INTERNAL PLOUGHS

10. HOW A PRODUCTION MANAGER SHOULD RUN AN AUTOMATED PLANT

11. OVERALL COURSE CONCLUSION