Basic Training
Concrete Block 101
Concrete Masonry Units are manufactured using the following ingredients:

- Portland Cement
- Normal Weight Aggregates
- Light Weight Aggregates
- Admixtures
- Water
Portland Cement

Cement gives the block its strength
Normal Weight Aggregates

May consist of any of these materials:

- Sand
- Gravel
- Marble Chips
- Used as fillers in the block
Light Weight Aggregates

- Increases fire rating
- Makes block lighter
- Made from expanded clay
Admixtures

Added to the mix during production

Increase water repellency
Water

Water is added in various proportions depending on the mix design.
How is concrete block manufactured?
Raw materials are weighed out in proportions and transported via conveyor to the mixer.
All raw materials are mixed for 7 minutes.
From the mixer the materials enter the block machine. They fall into a mold and are vibrated for 7 seconds.
Mold Removal

After the mold is removed the block are able to stand by themselves. They are not hard however. You could grab a chunk out of the block.
Block remain in the kilns for 24 hours. They are baked in a moist steam heat at 140 degrees Fahrenheit.
Concrete masonry units are manufactured in several types:

- Grey Block
- Split Face
- Split Rib
- Concrete Brick
Grey Block

Regular Concrete Block

Manufactured in the following sizes:

- 4"
- 6"
- 8"
- 10"
- 12"
Dimensions for CMU expressed as:

Width x Height x Length

Nominal Actual / Standard / Specified
4 x 8 x 16
6 x 8 x 16
8 x 8 x 16 or 7-5/8 x 7-5/8 x 15-5/8
10 x 8 x 16
12 x 8 x 16
Nominal dimensions are equal to the standard dimensions plus the thickness of one mortar joint (typically 3/8 in.).
Split Face

- Manufactured in pairs
- Available with a single score
Machine Split

Split face block are split from the top, bottom, and both sides.
Unit that is cracked under pressure to expose the inner matrix of the concrete masonry

Siamese Unit is Mechanically cracked under pressure

Unit are then separated exposing the “interior” as a finished surface.

“New” surface irregularities are not grounds for product rejection.
Split Rib

Manufactured the same way as split face but have 8 distinct ribs.
Unit are then separated exposing the “interior” as a finished surface. “New” surface irregularities are not grounds for product rejection.

Same process as split-face but with grooves molded in to provide finished “rib” relief.

Siamese Unit is Mechanically cracked under pressure.

Split Ribbed Concrete Masonry

Unit are then separated exposing the “interior” as a finished surface. “New” surface irregularities are not grounds for product rejection.