

**2019 MICHIGAN STATE SkillsUSA CHAMPIONSHIPS  
TASK & MATERIALS LIST**

**SKILL OR LEADERSHIP AREA: MASONRY**

**NOTE:** TO BE READ BY ADVISOR AND STUDENTS.

**CONTEST LOCATION:**

DeVos Place  
303 Monroe Ave NW  
Grand Rapids, MI 49503  
616.742.6500  
<http://devosplace.org/>

**RESUME:**

Each student must submit a one-page printed resume before the contest start at the contest site (present to contest coordinator, not judges). The resume is no longer submitted online. This is the only time that resumes can be turned in. Failure to do so will result in a 10 point penalty.

**Testing Schedule - Friday, April 5, 2019:**

All Masonry contestants need to take the following tests. Attendance is mandatory! Failure to take these tests will result in NO POINTS for that section of the contest! If a contestant misses the written exam, they will still be able to participate on Saturday at the practical exam. They will not be able to take the written exam on Saturday and will receive zero points for that section of the contest.

- Between 3:00 pm and 4:00 pm - Leadership Test, Ambassador Ballroom, Amway Grand Plaza Hotel
- 4:00 pm – Masonry Test, Thornapple Room, Amway Grand Plaza Hotel

**CONTEST TIME LIMIT: 4 HOURS**

**TASKS TO BE PERFORMED:**

1. Written test to include technical and/or SkillsUSA Michigan professional development.
2. Construct project of 150 to 200 bricks and/or blocks.

**STUDENTS MUST SUPPLY THE FOLLOWING:**

- |                                     |                                |
|-------------------------------------|--------------------------------|
| • *1–Page Resume                    | • Brick Set (chisel)           |
| • **Hard Hat                        | • "S" Jointer                  |
| • **Safety Glasses or Goggles       | • Modular Rule                 |
| • **Work Boots (Leather)            | • Square                       |
| • Brick Tongs                       | • Line Blocks                  |
| • Mortar Board (24"x 24") and Stand | • Twenty Feet of Line          |
| • Coffee Can (for tempering)        | • Chalk Line                   |
| • 3' - 4' Plumb Rules (levels)      | • Brush                        |
| • Tool Bag                          | • #2 Pencil                    |
| • Trowel                            | • Any Other Desired Hand Tools |
| • Brick Hammer                      |                                |

\*10 points will be deducted from score for NO Resume.

\*\*Up to 50 points will be deducted for infractions of the Dress Code for Contestants:

- Comfortable work clothes
  - NO Sleeveless Shirts
  - NO Shorts
- Hard Hat
- Safety Glasses or Goggles
- Work Boots (Leather)
  - NO Tennis Shoes

NOTES:

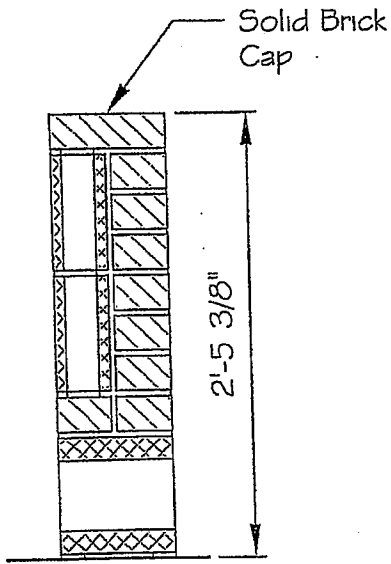
- Students are expected to follow dress code and equipment list in order to compete.
- Each contestant must demo their project and clean up debris at the end of the contest. ***Any contestant who does not participate in clean up will receive a zero on their masonry exam unless dismissed by the judges.***
- Participants may have no contact or talk to others, i.e. parents, friends, teachers, other contestants, etc. once the contest starts.
- No story poles or dead men etc. will be allowed.

Revised 12/19/18

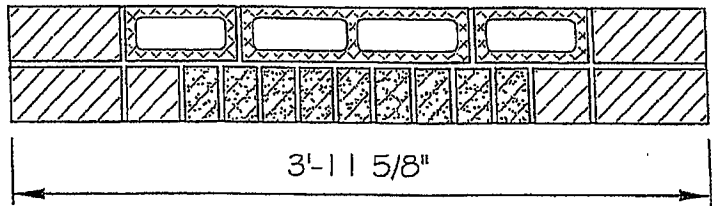
# MASONRY EXAM STUDY GUIDE

- Vertical mortar joints in brick or block masonry construction are called Head Joints.
- Bed Joints are horizontal mortar joints in brick or block masonry construction.
- A control joint is a continuous vertical joint filled with mortar, but with a bond breaker on one side so that tensile stress cannot develop across the joint. If control joints are not provided, a concrete masonry wall may crack as it shrinks over time.
- An expansion joint is a continuous vertical or horizontal joint, left completely free of mortar and filled with elastomeric sealant to keep it watertight. Clay brick masonry expands over time. Expansion joints accommodate this expansion as the sealant compresses.
- There are three mortar types used to lay brick or block masonry units: (M) 2500 psi, (S) 2000 psi, or (N) 1500 psi. The letters used are every other letter in the word MASON.
- The length of each block including the mortar joint is sixteen (16) inches.
- Masonry is a self supporting building material.
- Stack bond is when masonry units are laid so that all the vertical head joints are plumb over each other.
- Running bond is when all of the masonry units are laid out a stretcher position. Most concrete block walls are laid in running bond.
- The actual width of a 4" block is 3 5/8".
- The actual width of a 12" block is 11 5/8".
- The area of a wall in square feet is length times width.
- The actual size of a standard 8 inch stretcher block is 7 5/8 inches by 7 5/8 inches by 15 5/8 inches.

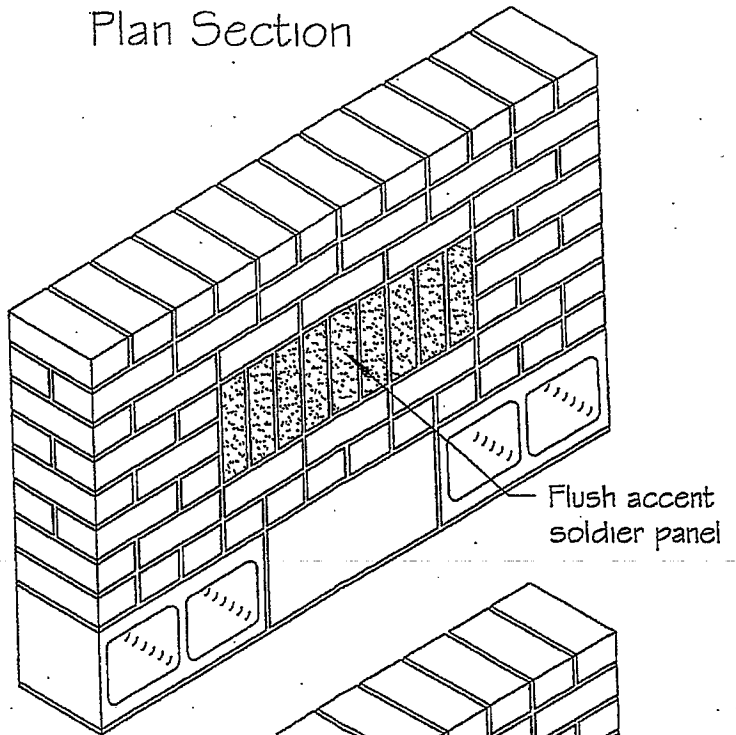
- The typical joint thickness for laying concrete blocks is 3/8 inches.
- Tooling or striking of joints is the masonry trade term which describes the finishing of mortar joints by passing a striking tool over the joints. A concave joint is the most commonly used joint finish in block masonry.
- A modular rule is typically used in masonry construction. When the size of the building material is based upon the modular unit of 4" it is considered modular masonry construction.
- The oldest continuous union in the United States of America is the International Union of Bricklayers & Allied Craftworkers.
- The number of courses of cement block required to lay a wall 8' high is twelve (12); 8 inches times 12 courses equals 96 inches or eight foot.
- A concrete block is also called a Concrete Masonry Unit or CMU.
- Mortar for concrete block is typically mixed using less water than for brick to help support the unit.
- When laying block, the side with the thicker or wider faced shell (or web) should be facing up so there is a wider area to spread mortar for the next course.



Section

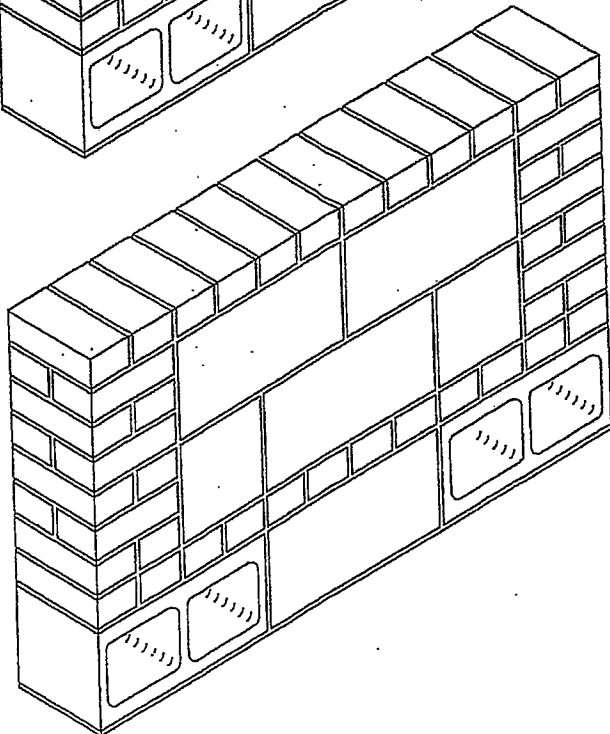


Plan Section



Front Isometric View

Back Isometric View



Materials:

- 3 - 4" CMU
- 3 - 8" CMU
- 2 - Half 4" CMU
- 9 - Modular Brick - Type B
- 12 - Uncored Modular Brick - Type A
- 51 - Modular Brick - Type A

1ST YEAR PROJECT

# SCORECARD Masonry

		Contestant Number							
Items Evaluated	Possible Points								
Plumb	100								
Level	100								
Square and Range	100								
Measurements	100								
Correct Design	100								
Manipulation	100								
Tooling and Neatness	100								
Full Joints	100								
Written Exam	100								
Production	100								
Résumé Penalty	0 or -10 only								
Clothing Penalty	0 to -50								
Written Test	Tie Breaker Only								
<b>Total Possible Points</b>	<b>1000</b>								

**Date:** \_\_\_\_\_

**Judges' Signatures:**
