

# Metropolitan Builders Association

## Masonry & Concrete Standard

### Background

Masonry and concrete work in residential construction often provides the base structure upon which the house is built or as a veneer. The work is performed with manufactured or natural materials. These materials are subject to the same weathering phenomena as in their natural state, such as erosion, freezing and thawing, chipping, natural color variations and non-uniformity of size. Masonry work can be performed with an almost infinite variety of materials, methods of application and techniques of installation. This permits the Buyer a wide range of choice, creating a finished product that can never again be exactly duplicated. The final appearance of masonry is dependent upon the variation of the product and the techniques of the individual workman.

Masonry and concrete work consists of three primary divisions:

1. The construction of a basement which may be of cast-in-place (poured) concrete, concrete block masonry, or engineered systems.
2. The placing of basement slabs, garage floors, stoops, patios, walks or drives.
3. The veneering of the interior or exterior of some structures with brick, stone, cultured stone, or other masonry products.

### Flatwork

Concrete flatwork is subject to several natural changes, such as shrinkage, settling or volume change which creates cracks. These cracks do not affect the integrity of the structure. Basement or garage floors are not a structural component of the home. Concrete is subject to the elements and is attacked by certain chemicals. Pitting, scaling, or spalling can develop under unusual conditions or when certain salts or chemicals are placed on a slab in winter for ice removal or drop from a car onto a garage slab and/or drive. A certain amount of surface dusting is normal. Proper Buyer maintenance is required. A sealer can be applied by the Buyer to the concrete to minimize dusting, spalling or other effects from chemicals.

When concrete is used as a decorative or finished material, Buyer should be aware that the same standards apply. Buyer is cautioned that the color samples used for selecting colors are not very good indicators of the final product, as variables within the cement affect the color and texture of the finished product. Any repair to decorative concrete cannot be guaranteed to match the existing product. Furthermore, periodic maintenance of the concrete, including waxes, tints, and sealers, are necessary to maintain the look of the decorative concrete.

### Walls

Cracking is normal and characteristic of concrete. Cracks are usually caused by shrinkage of concrete and expansion and contraction and may occur throughout the life of the house.

Cracks in concrete walls or mortar joints of block foundations may not compromise the structural strength of the home.

It should be pointed out that masonry and concrete walls are not waterproof and can leak.

### Pre-Cast Concrete

Falls under the warranty of the manufacturer.

### General

Masonry and concrete work is subject to color and texture variations due to the nature of the materials and the process used. Repairs, when made, seldom match in color, and some variation is to be expected.

**The following quality standards and repair responsibility are applicable for the first year of warranty only.**

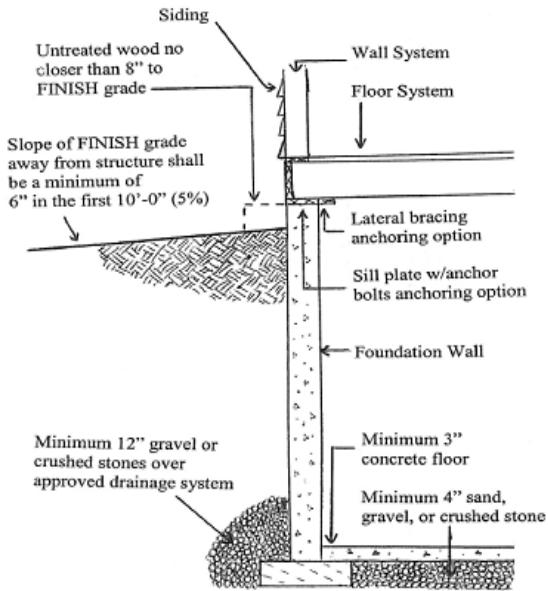
## Basement

### 1. Leaks in basement or wet basement.

**Performance Standard** No leaks or flow of water are acceptable, except when caused by an improper ground pitch away from the foundation. A proper grade must be maintained by the Buyer. A proper pitch is 6" down for every 10' out from the foundation.

Contractor cannot be held responsible for unknown or unforeseen subsoil conditions or improper landscaping by the Buyer if part of Buyer's building contract. Leaking conditions should not be confused with dampness or moisture or with condensation during the summer months which can be expected by the Buyer. If the basement has an engineered waterproofing system on it, then the Buyer should refer to the manufacturer's warranty.

**Contractor Repair Responsibility** Once a proper grade has been established at the proper height and pitch away from the foundation, Contractor will correct as required if the leak still exists. Any openings made in order to correct should be repaired. Color variations and hairline cracks in repairs are to be expected.



## 2. Cracked basement wall.

**Performance Standard** Hairline vertical cracks in poured concrete foundations not exceeding 3/16" that do not leak water are acceptable. If the crack is leaking, it needs to be repaired once the grade is determined to be correct per #1 above. Cracks that are not vertical, may or may not need repair depending on severity and would need to be analyzed by Contractor.

Hairline step cracks in concrete block walls that occur in mortar joints, vertically through only one course of block, and minor step cracks in the mortar joints which do not exceed 3/16" and do not leak water are acceptable. Horizontal hairline cracks, where the wall is not bowed, are acceptable. If the crack is horizontal and the wall is bowed, it will need to be repaired by the Contractor.

**Contractor Repair Responsibility** a. Once the grade is determined to be correct per #1 above, then poured concrete foundation cracks that exceed 3/16" or are leaking need to be repaired. If the cracks exceed 3/16" and are not leaking, and are outside of a control joint, the cracks will need to be filled. Color and texture will not match. If the wall is leaking, it will need to be repaired from the inside. No repairs on the outside are necessary.

b. Block foundation cracks exceeding 3/16" width or cracks that are leaking need repair by the Contractor. The inside face of the broken blocks should be removed and replaced. Tuckpointing of the affected joints should be done. It should be noted that the mortar color will not match. If the wall leaks, it must be repaired by the Contractor. If the wall has horizontal cracks and/or is bowed, an engineered repair may be needed.

## 3. Cracking of basement floor.

**Performance Standard** Shrinkage cracking is to be expected and requires no repair unless one or both of the following conditions exist:

- If the two surfaces of the crack are mismatched in height by more than 3/16".
- If the shrinkage crack exceeds 3/16" width.

**Contractor Repair Responsibility** Contractor to repair cracks exceeding maximum tolerances by surface patching.

## 4. Basement floor does not pitch to floor drain.

**Performance Standard** Basement floors are only pitched in the immediate area of the floor drain.

**Contractor Repair Responsibility** None, if the floor meets the Performance Standard.

## **5. Voids in poured concrete walls.**

**Performance Standard** Voids larger than 1" in diameter or 1" in depth are unacceptable. Aggregate can be exposed in a poured wall.

**Contractor Repair Responsibility** Contractor will repair voids that do not meet the Performance Standard. Proper repair can be affected by thoroughly filling the hole. The repaired area will not match the color of the surrounding concrete.

## **6. Basement wall is out of plumb.**

**Performance Standard** Walls shall not be out of plumb greater than 1" in 8 feet when measured from the base to the top of the wall.

**Contractor Repair Responsibility** If the wall meets building codes and structural engineering requirements, then no corrective action is required.

## **7. Basement wall is bowed.**

**Performance Standard** Concrete walls shall not bow in excess of 1" in 8 feet.

**Contractor Repair Responsibility** If the wall meets building codes and structural engineering requirements, then no corrective action is required.

## **8. Pitting, scaling or spalling, and chert pops of concrete work.**

**Performance Standard** Aggregate pops and scaling are normal. Excessive aggregate pops and scaling should be analyzed by the Contractor. Contractor is not responsible for pops and scaling caused by freezing and thawing, use of salt or other chemicals and mechanical implements, and other factors beyond the Contractor's control. Buyer should consider sealing the concrete.

**Contractor Repair Responsibility** The Contractor will take corrective measures necessary to repair defective concrete surfaces. The Contractor is not responsible for deterioration caused by salt, chemicals, mechanical implements, or other factors beyond the Contractor's control.

## **9. A cold joint is visible in exposed poured concrete foundation walls.**

**Performance Standard** A cold joint is a visible joint that indicates where the pour terminated and continued. Cold joints are normal and should be expected to be visible. Cold joints should not be an actual separation or a crack that exceeds ¼" in width.

**Contractor Repair Responsibility** Contractor will cosmetically repair any cold joint that exceeds ¼" in width.

# **Concrete Stoops and Steps**

## **1. Water stands on stoops with foundations.**

**Performance Standard** No measurable water depth exceeding 1/8" is permissible on stoops.

**Contractor Repair Responsibility** Correct to meet Performance Standards by filling with a latex filler or grinding. Color variations in concrete are to be expected

## **2. Cracking and chipping of stoops with foundations.**

**Performance Standard** All cracks, except hairline cracks, require repair. Chips greater than 1 inch in diameter and cracks in excess of 3/16 inch in width may be corrected with a filler. Color variations in concrete are to be expected.

**Contractor Repair Responsibility** Correct to meet Performance Standard.

## **3. Color or texture variation in concrete.**

**Performance Standard** Due to the nature of the materials, weather conditions, and the concrete installation process, concrete work is subject to color and texture variations. Spotting and other color discoloration is considered normal. For example, a concrete color variance between the front stoop and exterior slab-on-grade sidewalk should be expected. Any repairs, when made, will seldom match in color, and some variation is to be expected.

**Contractor Repair Responsibility** None.

# Garages

## 1. Garage floor not pitched to drain.

**Performance Standard** Garage floors are pitched in the immediate area of the floor drain. No measurable water depth exceeding 5/16" is permissible.

**Contractor Repair Responsibility** Contractor will take corrective action to meet Performance Standard.

## 2. Cracking of garage slab.

**Performance Standard** Cracks in garage slabs in excess of 1/4" in width or 1/4" in vertical displacement shall be repaired.

**Contractor Repair Responsibility** Contractor to repair cracks exceeding maximum tolerances by surface patching.

## 3. A garage concrete floor has settled, heaved, or separated.

**Performance Standard** The garage floor shall not settle, heave, or separate in excess of 1 inch from the structure.

**Contractor Repair Responsibility** The contractor will make a reasonable and cost-effective effort to meet the performance standard. This standard does not mandate the replacement of the entire slab.

# Driveways and Sidewalks

## 1. An asphalt driveway has cracked.

**Performance Standard** Longitudinal or transverse cracks greater than 1/16" in width or vertical displacement are considered excessive.

**Contractor Repair Responsibility** The contractor shall repair the affected area to meet the standard. Contractor may repair using tar sealer. Buyer is cautioned that the repair may be more visible than the actual crack.

## 2. Standing water is observed on an asphalt pavement surface.

**Performance Standard** Standing water greater than 1/8" in depth shall not remain on the surface 24 hours after a rain.

**Contractor Repair Responsibility** The contractor shall repair or replace the affected area to meet the performance guideline. Buyer is cautioned that the repair may be more visible than the actual crack.

## 3. Adjoining exterior concrete flatwork sections deviate in height from one section to another.

**Performance Standard** Adjoining concrete sections shall not differ in height by more than 1/2".

**Contractor Repair Responsibility** The contractor shall repair deviations to meet the standard.

## 4. The aggregate of asphalt pavement is raveling.

**Performance Standard** Asphalt pavement shall not ravel. However, raveling at the edges of driveways is normal and within the standard.

**Contractor Repair Responsibility** The contractor shall repair or replace the affected area to meet the standard.

## 5. A sidewalk and other exterior concrete flatwork have settled.

**Performance Standard** Adjoining concrete sections shall not differ in height by more than 1/2".

**Contractor Repair Responsibility** The contractor shall repair the affected areas to meet the standard.

## 6. Water collects (ponds) on the sidewalk.

**Performance Standard** Standing water that is 3/8" deep on a sidewalk 24 hours after the end of a rain is considered excessive.

**Contractor Repair Responsibility** The contractor shall repair or replace the affected area to meet performance guideline.

**7. Cracks in poured concrete patios and drives.**

**Performance Standard** Cracks in excess of 1/4" in width or vertical displacement (measured when no frost in ground) on a surface shall be repaired.

**Contractor Repair Responsibility** Contractor to repair to meet Performance Standard. If replacement of a section is required, the minimum section should be removed from the walk, drive or patio at the blind or open joint. (In the case of a city sidewalk, the municipality may require more.) Buyer is cautioned that color of repaired section may not match.

**8. Municipal or subdivision sidewalk cracks.**

**Performance Standard** If the sidewalk existed prior to construction, Contractor would have no repair responsibility.

**Contractor Repair Responsibility** None.

These standards were last updated by the MBA on 11/8/07.