

The inspector shall see that all necessary signals and warning signs are placed on the work to protect the public, and that red lights are properly placed at the close of each day's work.

The inspector must see that the city monuments and bench marks are preserved from injury by the contractor. In case it becomes necessary to move or lower any monument, the inspector shall notify the Division Engineer, and the contractor shall not move same unless so instructed by the Division Engineer.

The inspector is to examine the material as it is brought on the work and see that it conforms to the specifications before permitting it to be used. Should the inspector at any time suspect that the material used is not in accordance with the specifications, samples must be taken by him, with a record of the location, and the office of the Engineer of M. of W. or the Division Engineer notified immediately.

The inspector shall not permit any portion of the paving to be laid at a higher elevation than the top of the head of the rail.

The inspector shall see that the void between the head and the base of the rail is filled either with the paving, or a suitable rail plaster, and shall not permit the contractor to pave against the rail unless this void has been filled.

Where block paving is to have tar and gravel, or cement joints, the inspector shall see that such tar or cement is omitted for a sufficient space around each joint, until the joints are electrically welded, provided such joints are to be so welded.

The inspector shall report to the Division Engineer any variation from the ordinary paving that will require special measurements, and shall keep sufficient records to be able to designate such places until same shall be measured by the engineers.

The inspector shall notify his superior officer at once of any accident, no matter how slight. If the accident is serious the inspector shall immediately notify the claim department by telephone.

In addition to the above general instructions, the inspector shall watch out particularly for the following points: (This is not to be construed by the inspector to mean that they are the only items to be checked; but he is to keep a close supervision over the entire job.)

Concrete.—Cement must be effectually protected from water or dampness. Packages of cement, which when turned out contain hard lumps, should be rejected.

Where the contractor is to place the concrete foundation for the paving, the inspector shall see that the specified proportions are strictly adhered to. Where the sand and stone is supplied to the mixing board by wheelbarrows and the cement in bags, the inspector shall measure same, to see that the contractor is using the right proportions of cement, sand and stone. One standard bag of cement will be considered as one (1) cubic foot, and a barrel of cement as four (4) cubic feet.

In mixing the concrete, the inspector must see that the directions of the specifications are followed. The method of gauging the proportions must be accurate, and the operation of mixing it by hand must be done on suitable mixing boards. The ingredients must be thoroughly mixed. The inspector must see that the concrete is deposited as quickly as it is mixed.

When a concrete mixer is used the inspector must acquaint himself with the theory and principle of operation of that particular type of mixer, and be able to detect at any time any change in the proportion or uniformity of the mixture.

When the mixer is of the automatic-feed type, the inspector must test it at least once during each day's work, at times unexpected by the foreman, by feeding measured quantities of cement, sand and stone, in the proportion specified, into the respective hoppers. If the mixer is gauged properly and feeding freely, the measured quantities of materials will be exhausted simultaneously. Should some cement be retained in the cement hopper after the sand and stone are exhausted, it is sufficient indication that the mixer is either improperly gauged or that the cement feed is clogged. Whatever the trouble is, it must be corrected before the mixing is allowed to continue.

When the contractor employs a concrete mixer into which the materials are not loaded in batches, the inspector is not to depend for the securing of proper proportions on the accuracy of the machine gauging or the proportion of the shovellers used. The material must be placed in properly proportioned piles, not containing more than 10 cubic yards in the case of sand, broken stone or gravel, and the inspector must see that the machine exhausts all material simultaneously. Should it be impossible to obtain these results, due to improper piling of material, the inspector must require the use of measuring boxes for proportioning the charges for the mixer.

Use sufficient water to make what is called a wet mixture, but not so much that free water will drain from the mixed batch before ramming.

The test for the degree of mixing or turning will be that all fragments of stone are fully covered with mortar.

Grouting of concrete after it has been laid, or the application of neat mortar to the surface, and the sweeping of the surface with street brooms to make it smooth or to cover up defects, must not be permitted. Concrete made of fine stone in the stated proportions of mixture may be used for the leveling up of depressions.

The inspector shall see that the concrete is protected from injury while setting, and that no hauling or trucking over it is done, except on planks, and only after a proper hardness has been reached.

Sheet-Asphalt Pavement.—The principal care of the inspector will be to see that the asphalt is not laid at too low a temperature. The minimum temperature permitted by the specifications is 250° F. While the main or interior mass of a wagon-load may be well above that temperature, the top and outer part of the load may be, particularly in cold weather, too cold to be safely used. Some of this colder portion may be sufficiently reheated by mixing it with the hotter material, if properly handling in unloading; but any material that is so cold as to be lumpy when unloaded, or, more particularly, when being raked out, should be discarded. This applies to both surface and binder mixtures. The best practical guide is the manner in which the mixtures behaves in raking. It should always be so hot that it will, under the rake, break up into a uniform crumbling or powdery mass. If it does not do this it is too cold, whatever its temperature may be.

Preparation of Street Surfaces.—Before the binder is laid, all loose material, rubbish, street dirt and other matter foreign to the concrete surface, shall be removed and the concrete surface swept, with street brooms if necessary, to properly clean it.

Neither binder nor surface mixture shall be laid upon wet surfaces. Before the spreading of the surface mixture on the binder, the latter must be cleaned of all foreign matter and swept if necessary. If the binder course already laid has become covered with mud from wagons or other travel, it must be swept clean. No loose fragments of binder material must remain on the surface. Any part of the binder course