flows under a lesser pressure than that portion adjacent the region of liquid ingress. Accordingly, in such constant depth annular manifolds, the rate of flow of the liquid injected into the bore from the remotely located point is considerably less than the rate of flow adjacent the inlet, resulting in nonuniform wetting of the dry ingredients. It has been found that the tapering, progressively diminishing groove depth feature embodied in the present invention maintains manifold groove **58** completely filled with liquid throughout its circumferential extent, i.e. the liquid fills manifold groove **58** at the region thereof located remotely from the liquid inlet as readily as at the inlet region, to effect a constant flow of liquid at a uniform rate through passage **98** and through all of the passages **96** radially into the adaptor bore **52,** thereby insuring uniform wetting of the dry material passing axially through bore **52.** Also, the equally, circumferentially spaced ribs **65** on inclined shoulder **64** positively centers the coupling inclined surface **94** relative to inclined shoulder **64** to maintain the sizes of passages **96** equal in depth further insuring uniform radial flow of the liquid therethrough into adaptor bore **52.**

At the initial stage of the blasting operation, the nozzle operator can thread coupling **12** relative to adaptor **10** in such a manner as to obtain an optimum water flow pattern. If the material issuing from nozzle **14** is too wet, coupling **12** is threaded further into opening **54** to compress bead **68** and ribs **65** thereby decreasing the size of passage **98** and passages **96** to restrict the flow of water therethrough. Annular relief recess **66** will accommodate the expansion of material in the area of end wall **56.** If desired, the flow of liquid through passages **98** and **96** can be completely interrupted by still further threading coupling **12** into opening **54** to an extent closing passages **96.** If the issuing material is not sufficiently wetted, coupling **12** can be threaded outwardly of opening **54** to enlarge passages **96** and **98,** as required. These adjustments are made quickly and easily by the operator who need only rotate coupling **12** with one hand while holding nozzle **14** with the other. The flow of the liquid remains uniform at the selected rate throughout the circumferential extent of manifold groove **58** due to the progressively varying groove depth effected by the tapering bottom wall **100** of manifold groove **58** as hereinbefore described. Thus, a sensitive water control means is provided to produce a highly controlled cementitious material with very little rebound and dust.

While nozzle **14** and coupling **12** can be formed of the same material ad adaptor **10,** e.g. urethane or any other suitable resiliently yieldable material which is highly resistant to the abrasive action of the cementitious material passing therethrough and to the generation of static electricity normally accompanying such passage, it should be understood that adaptor **10** can be used with nozzles and couplings formed of any material, such as metal for example, which are widely used in industrial applications.

From the foregoing, it is apparent that the objects of the present invention have been fully accomplished. An improved liquid injection adaptor is provided for effectively controlling the flow of liquid at a uniform rate into a stream of dry material to uniformly wet the latter. A preferred embodiment of this invention having been described in detail, it is to be understood that this has been done by way of illustration only.

I claim:

1. An adaptor comprising: a body formed of a resiliently yieldable plastic material having a bore therethrough, an inlet end and an outlet end; a threaded opening communicating with said bore; an annular wall extending radially inwardly from the wall of said threaded opening toward said bore and having at least a portion thereof defining a seat; an inlet passage in said body; an annular manifold passage of a varying size for effecting a selected uniform rate of liquid flow therethrough; said manifold passage being spaced radially outwardly of said bore and communicating with said inlet passage; said annular wall and said seat defining flow control passage means adjacent said inlet end communicating between said manifold passage and said bore.

2. An adaptor according to claim **1** wherein said manifold passage progressively diminishes in size away from said inlet passage.

3. An adaptor according to claim **1** wherein said manifold passage has a tapering wall to effect a progressively diminishing cross sectional area thereof away from said inlet passage to effect a selected constant rate of flow of liquid therethrough.

4. An adaptor according to claim **1,** said seat including an inclined shoulder having means centering the conical surface of a hose coupling threadable in said opening.

5. An adaptor according to claim **4** wherein said centering means comprises a plurality of circumferentially spaced ribs formed on said shoulder and defining therebetween a series of passages communicating with said bore, said series of passages being variable in size upon compression of said ribs to vary the rate of delivery of liquid therethrough.

6. An adaptor according to claim **1** wherein said flow control passage means includes means provided on said seat defining a series of passages communicating with said bore, said series of passages being variable in size upon axial compression of said inlet end to vary the rate of delivery of liquid therethrough.

7. An adaptor according to claim **6** wherein said passages defining means comprise a plurality of ribs on said seat whereby compression of said ribs toward said seat varies the size of said passages.

8. An adaptor according to claim **7** wherein said series of passages are inclined inwardly from said annular wall to said bore in the direction of said outlet end.

9. An adaptor according to claim **7,** together with a hose coupling threaded in said opening and urged against said ribs to compress said ribs and thereby vary the size of said series of said passages.

10. An adaptor according to claim **6** wherein said flow control passage means included an annular passage communicating between said manifold passage and said series of passages, said annular passage being variable in size upon axial compression of said inlet end.

11. An adaptor according to claim **10** including an annular bead on said annular wall outwardly of said manifold passage, said bead forming an annular seat, said passages defining means comprising a plurality of ribs on said first mentioned seat, together with a hose coupling threaded in said opening and urged against said annular bead to form a fluid tight seal therebetween, said bead and said ribs yielding under compression upon further threading of said coupling into said