[Technical Problem]

The present invention is directed to providing a concrete bonded-type waterstop which allows a surface of a waterstop to be completely bonded to concrete after the concrete is poured by applying an adhesive and a protective coating agent to a predetermined position of the surface of the waterstop, the waterstop being installed in a construction joint and an expansion joint to secure a waterproof function of an underground concrete structure so as to completely block a water leakage path, and a method of constructing the same.

The present invention is directed to providing a concrete bonded-type waterstop which allows a waterstop to be completely bonded to concrete so as to significantly increase waterproof performance of a concrete underground structure.

[Technical Solution]

Another aspect of the present invention provides a method of constructing a concrete bonded-type waterstop which includes a) forming an adhesive layer by pre-applying an adhesive to a predetermined position of a waterstop which is a waterstop for an expansion joint or a waterstop for a construction joint, b) forming a protective coating layer by coating the adhesive layer with a protective coating agent to protect the adhesive layer from weathering factors or foreign materials before concrete is poured, c) installing the waterstop, on which the adhesive layer and the protective coating layer are formed, on a mold which allows the concrete to be poured therein and cured, d) pouring and curing the concrete in the mold on which the waterstop, on which the adhesive layer and the protective coating layer are formed, is installed, and e) completely bonding the concrete and a surface of the waterstop to completely block a water leakage path, wherein the surface of the waterstop is completely

bonded to the concrete after the concrete is poured and cured so that the water leakage path is completely blocked, and the protective coating agent with which the protective coating layer is coated in operation b) is hydrated fine cement elements, and the adhesive which is a waterproof agent in operation a) is applied to a surface of the waterstop for an expansion joint except for a central expansion part, and the waterstop on which the adhesive layer and the protective coating layer are formed in operations a) and b) may be pre-manufactured in a factory.

[Advantageous Effects]

According to the present invention, a concrete bonded-type waterstop allows a surface of the waterstop to be completely bonded to concrete after concrete is poured by applying an adhesive and a protective coating agent to a predetermined position of the surface of the waterstop, wherein the waterstop is installed in a construction joint and an expansion joint to secure a waterproof function of an underground concrete structure so as to completely block a water leakage path, thereby maximizing a water-stopping effect.

According to the present invention, waterproof performance of a concrete underground structure can be significantly increased by the concrete bonded-type waterstop in which concrete and the waterstop are completely bonded to each other, thereby reducing maintenance costs of water leakage and minimizing delay of a subsequent process.

[Description of Drawings]

FIG. 1 is a perspective view showing a waterstop for concrete according to a related art.

FIG. 2 is a plan view showing a state in which the waterstop is used when the waterstop for concrete shown in FIG. 1 is vertically constructed.

FIG. 3 is a perspective view showing a state in which waterstops for a concrete structure according to a related art are connected with each other.

[CLAIMS]

[Claim 1]

A method of constructing a concrete bonded-type waterstop, the method comprising:

a) forming an adhesive layer (130) by pre-applying an adhesive to a predetermined position of a waterstop (120) which is a waterstop (120a) for an expansion joint;

b) forming a protective coating layer by coating the adhesive layer with a protective coating agent to protect the adhesive layer (130) from weathering factors or foreign materials before concrete (110) is poured;

c) installing the waterstop (120), on which the adhesive layer (130) and the protective coating layer (140) are formed, on a mold which allows the concrete to be poured therein and cured;

d) pouring the concrete (110) in the mold on which the waterstop (120), on which the adhesive layer (130) and the protective coating layer (140) are formed, is installed and curing the concrete (110); and

e) completely bonding the concrete (110) and a surface of the waterstop (120) to completely block a water leakage path,

wherein the surface of the waterstop (120) is completely bonded to the concrete after the concrete (110) is poured and cured so that the water leakage path is completely blocked,

the protective coating agent with which the protective coating layer (140) is coated in operation b) is hydrated fine cement elements, and the adhesive which is a waterproof agent in operation a) is applied to a surface of the waterstop (120a) for an expansion joint except for a central expansion part, and the waterstop on which the adhesive layer and the protective coating layer are formed in operations a) and b) are pre-manufactured in a factory.

[Claim 2]

The method of claim 1, wherein the adhesive to be pre-applied to the adhesive layer (130) in operation a) is a pressure-sensitive adhesive (PSA) or a synthetic adhesive.

[Claim 3]

The method of claim 2, wherein the PSA may be any one selected from among natural rubber adhesives, thermoplastic rubber adhesives, acrylic adhesives, hot melt adhesives, silicone adhesives, and the like, including a rubberized asphalt which is a styrene-isoprene-styrene, styrene-ethylene/butylene-styrene, butyl, and other rubber-based adhesives.