

TECHNICAL BULLETIN

NATIONAL PLASTERERS COUNCIL

Number 1

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TESTING FILL WATER

Introduction – It has been a long held recommendation in the swimming pool industry to test the tap or fill water of a swimming pool (regardless of the interior finish) prior to filling a new pool. Additionally, the National Plasterers Council is stressing the need to test the fill water on any pool that has been drained for remodeling, renovation, or a simple repair prior to filling.

General Description – Recently, many parts of the United States have undergone significant changes in the potable water delivered from local municipalities to the homes and businesses in their water district. Some of the changes have been brought about by drought conditions or extreme flooding and the need to find alternative water sources. Population growth in certain areas has also created the need for alternative sources of water, which can alter the chemical makeup from previously existing levels. Whatever the reason, the need to test fill water should no longer be an option, and it is strongly recommended that all plasterers, builders, service companies, and start-up persons make pre-testing the source water a mandatory requirement in their business practices. This will help minimize the likelihood of surface issues whether a new pool, remodeled pool, or simply a pool that is being drained due to the high mineral composition or cyanuric acid levels of older pool water.

There are a variety of problems that may arise from three fill water factors. These factors are: 1) tap or fill water that is potentially aggressive due to low pH, low calcium hardness, or low carbonate / total alkalinity, 2) tap or fill water that has high pH, high calcium hardness, or high total alkalinity contents, or 3) some fill waters may have elevated levels of dissolved metals in them. The most common are copper and iron, and sometimes manganese.

Low levels of calcium hardness, total alkalinity, and low pH can lead to etching of surfaces, dissolution of grouts, and damage to the pool equipment. These problems can be visible in the pool as surface discoloration issues, colored water, and deteriorated metals in pumps, heaters, valves, and other metal components.

High calcium levels, high total alkalinity, and high pH may lead to such problems as scaled pool surfaces, staining discoloration, cloudy water, and equipment issues such as plugged filters and heaters, along with poor circulation.

Dissolved metals in the tap water can lead to colored pool water and staining discoloration of surfaces and grouts.

The best method to prevent problems from these three factors is to obtain good commercially available test kits and test the tap water pH, total alkalinity, and calcium hardness. Specialty kits are also available to test for common metals. Anyone performing start-ups of new pools or newly remodeled pools should purchase test kits that are capable of testing the fill water for these factors. This includes plasterers, builders, remodelers, and service companies.

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Even those who do minor pool repairs where draining a pool is required, should make it a standard procedure to test the tap water prior to filling.

If the consumer(s) insists on starting up their pool, then provide them a copy of this bulletin or your own generated information bulletin advising them of this industry practice.

Summary – Preventing pool interior finish problems and other swimming pool issues are often best accomplished before the fact, not after a problem has developed. Through the purchase of good commercially available test kits and establishing a regimen of pre-filling testing, many problems can be averted.

In February 2008, the NPC released its Swimming Pool Start-up Procedures, which can be obtained from the NPC website at www.npconline.org. These recommended start-up procedures stress the need to test fill water, record the results, and then to act upon those results, regardless of the type of surface.

It is strongly recommended to make testing of the fill or tap water mandatory at every start-up or refill, no matter what type of start-up procedure is implemented.



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