

September 10, 1999

NSF Protocol P171

Chlorine Resistance of Plastic Piping Materials



September 10, 1999

NSF International, an independent, not-for-profit organization, is dedicated to public health safety and protection of the environment by developing standards, by providing education and by providing superior third-party conformity assessment services while representing the interest of all stakeholders.

This Protocol is subject to revision.
Contact NSF to confirm this revision is current.

Users of this Protocol may request clarifications and interpretations, or propose revisions by contacting:

NSF International
Engineering & Research Services
789 Dixboro Road
Ann Arbor, MI 48105
Phone: (734)769-8010 Telex: 753215 NSF INTL
FAX: (734)769-0109 E-mail: info@nsf.org
Web: <http://www.nsf.org>

September 10, 1999

NSF Protocol P171

Chlorine Resistance of Plastic Piping Materials

Protocol Developer
NSF International
Engineering & Research Services

Prepared by NSF Engineering & Research Services staff with assistance from NSF Protocol Development Panel members shown below:

Mr. Michael Beaton, Senior Staff Engineer, International Conference of Building Officials (ICBO) Evaluation Services, Inc.

Mr. Pat Chiasson, Executive Vice President and C.O.O., Bow Industrial Corporation

Mr. Mike Kobel, Director of Standards, International Association of Plumbing and Mechanical Officials (IAPMO)

Mr. Carl Mahabir, Technical Service and Development Engineer, AT Plastics inc.

Mr. Stan Mruk, Consultant

Dr. Ken Oliphant, Executive Vice President, Jana Laboratories Inc.

Mr. James Paschal, Director, Physical Performance Testing Laboratory, NSF International

Dr. Gary Sandilands, WRc ETC Ltd.

Mr. Steve Wooden, Product Manager, Padanaplast USA, Inc.

Published by
NSF International
789 Dixboro Road, Ann Arbor, Michigan 48105

For ordering copies or for making inquiries with regard to this Protocol, please reference the protocol title. Without the written permission of NSF, it is strictly prohibited to use this designation in whole or in part, to indicate conformance with this Protocol through the marking of products or packaging, or by any other means.

Copyright © 1999 by NSF International All rights reserved

This work has been copyrighted by NSF to preserve all rights under U.S. copyright law and copyright laws of Foreign Nations. It is not the intent of NSF to limit by this Copyright the fair use of these materials for the purpose of conducting research, development, manufacture and/or testing by end-users of these materials. Fair use shall not include the preparation of derivative works.

Printed in the United States of America.

Disclaimers

NSF International (NSF), in performing its functions in accordance with its objectives, does not assume or undertake to discharge any responsibility of the manufacturer or any other party. The opinions and findings of NSF represent its professional judgment. NSF shall not be responsible to anyone for the use of or reliance upon this protocol by anyone. NSF shall not incur any obligations or liability for damages, including consequential damages, arising out of or in connection with the use, interpretation of, or reliance upon this protocol.

Participation in NSF's protocol development activities by a representative of a regulatory agency (Federal, state, local) shall not be construed as the agency's endorsement of NSF, its policies, or any of its protocols.

NSF Protocols provide basic criteria to promote and protect public health. Provisions for safety have not been included in this protocol because governmental agencies or other national standards-setting organizations provide safety requirements.

Unless otherwise referenced as normative, the appendices are not considered an integral part of NSF protocols. They are provided as general guidelines to the manufacturer, regulatory agency, user, or certifying organization.

NSF Protocol P171

Chlorine Resistance of Plastic Piping Materials

1 General

1.1 Introduction

Chlorine is the most common disinfectant for potable water. At the levels found in potable water, chlorine can reduce the service life of plumbing system components. This test protocol, using the current industry practice, provides a means of assuring a minimum level of chlorine resistance for potable water applications.

1.2 Scope

This protocol covers the chlorine resistance performance test methods and requirements for plastic piping materials intended for the conveyance of chlorinated potable water. Its applicability to any finished product or end-use application is the responsibility of the user, product standards which reference this protocol, or the authority having jurisdiction.

1.3 Alternate materials

While specific materials are stipulated in this protocol, components that incorporate alternate materials shall be acceptable when it is verified that the component meets the applicable requirements of the protocol based on its intended end-use.

1.4 Certification Mark

Products meeting the requirements of this protocol and NSF International Certification Policies shall be authorized to use one of the following marks, depending upon intended end use:



For Domestic Continuous Re-circulation



For Traditional Domestic

*Note: The bulk of plumbing systems are **Traditional Domestic** or on/off systems. In these systems, the hot water pipes see hot water only when the tap is turned on and hot water is flowing through the system. The rest of the time, they are at room temperature. Recently, systems in which the hot water is continuously re-circulated through the hot water side of the plumbing system are being employed (**Domestic Continuous Re-circulation**).*