Best Practices Notice: Sodium Hypochlorite (NaOCl)

INTRODUCTION:

Sodium hypochlorite (bleach) is a difficult application for any piping system due to the decomposition of byproducts. Asahi/America's Chem Proline®, Chem Prolok®, Poly-Flo® Advanced PE, and Ultra Proline® ECTFE piping systems are installed in many sodium hypochlorite systems with success if the best practices are followed. Please contact Asahi/America's engineering department for more information or questions at pipe@asahi-america.com or 1-800-343-3618.

SODIUM HYPOCHLORITE BEST PRACTICES (FOR USE WITH ADVANCED PE):

Sodium Hypochlorite Best Practices for use with Advanced PE	
Temperature Liquid	80° F or lower Higher temperatures: Ultra Proline® ECTFE
Pressure Liquid	≤ 80 psi
Concentration/pH	≤ 12.5 %, pH>11 Above 12.5%: Ultra Proline® ECTFE
Threaded connections	NOT recommended
Butt Fusion Fittings	Recommended
Socket Fusion Fittings	Should be avoided – there is a stress point at the pipe insertion depth which has the potential for stress cracking
Stagnant pipelines	Stagnant chemical in piping should be avoided. Install recirculation loops or plan to blow/wash out line not in use.
Tank fill lines	Bulk delivery tank fill pipelines should be flushed after use to remove residual NaOCl.
Ambient Temperature	Indoor installation with a controlled environment is recommended. Outdoor installations, shade from sun. Painting pipe white does provide some reflection to reduce temperature. Insulate in environments with extreme solar radiation.
Stress points on pipe minimized	Expansion loops: installed to allow pipe to expand/contract with temperature changes. Clamps: Plastic or metal with elastomeric barrier. Restraints: installed to minimize pipe stress by thermal growth. Pipe clips should be circumferential and not overtightened-piping should be free to move in pipe clip.

SODIUM HYPOCHLORITE BEST PRACTICES (FOR USE WITH ECTFE):

Asahi/America can also provide our Ultra Proline® (ECTFE) piping for challenging sodium hypochlorite applications. Please contact Asahi/America's engineering department for more information at pipe@asahi-america.com or 1-800-343-3618.

Piping System	Better	Best
Piping System	Chem Proline® Advanced PE 	Ultra Proline® ECTFE 
Expected Life	~10 years	>50 years

Valves	Better	Best
Valves	Vented Ball Valve 	Diaphragm Valve 
Availability	Advanced PE: 4" and below ECTFE: 1" and below	Advanced PE: 2" and below ECTFE: 2" and below

PLEASE NOTE: THESE ARE GENERAL RECOMMEDNATIONS. PLEASE CONSULT ASAHI/AMERICA'S ENGINEERING DEPARTMENT PRIOR TO ALL ALL-APPLICATION SPECIFIC INSTALLATIONS.