CORROSION RESISTANCE GUIDE FOR POLYMER CONCRETE

Polymer concrete is a dense, strong material made from selectively graded aggregates utilizing resin as its binder in place of the water and portland cement found in conventional concrete. High performance polymers and monomers fuse together during mixing, molding, and curing to form an extremely powerful cross-linked bond.

Our polymer concrete products are manufactured using polyester resin for normal environments and ***vinyl ester resins*** when higher temperature contact or increased corrosion resistance is required. Polymer concrete benefits include a high strength to weight ratio, excellent impact resistance, low water absorption, and non conductivity.

This bulletin lists various chemical reagents and provides recommended corrosion resistance data. The recommendations are based upon tests performed by our vinyl ester resin suppliers using samples of the binding polymer under laboratory conditions. These are laboratory tests, and may not be representative of the conditions in your application. The bulletin is intended to be used as a guide only and specifically for ***vinyl ester resin*** products manufactured by Quazite/Polycast. At the time of publication, the information and recommendations contained herein were accurate and reliable.

We recommend that a sample coupon of polymer concrete be exposed to your environment for a minimum period of 60 days to verify suitability. We will provide these coupons upon request. If you return coupons that have been exposed to your environment to our lab in Lenoir City, TN, we can analyze the effects of the exposure for you.

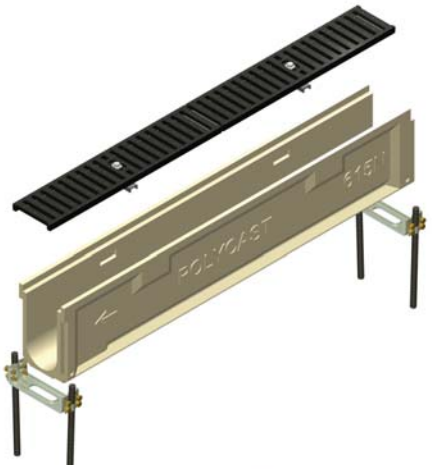
Where corrosion resistance and elevated temperatures are not considered a major design feature, we recommend polyester resin. Please contact our customer service department at 800-346-3061 if you have additional questions or to order coupons.

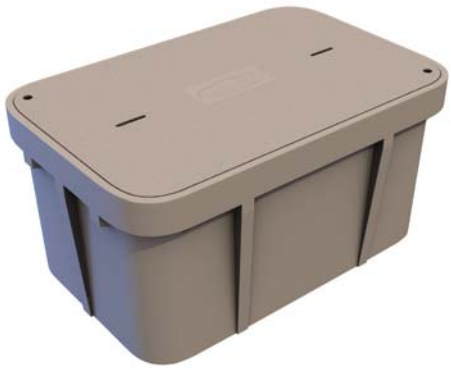
CHEMICAL	% CONCENTRATION	MAX TEMP °F
A		
Acetaldehyde	100	N.R.
Acetic Acid	10	180
Acetic Acid, Glacial	100	N.R.
Acetic Anhydride	100	N.R.
Acetone	10	150
Acetone	100	N.R.
Acrylamide	50	65
Adipic Acid	23	150
Alum	All	180
Aluminum Chloride	All	180
Aluminum Chlorohydrate	All	180
Aluminum Nitrate	100	150
Aluminum Potassium Sulfate	All	180
Aluminum Sulfate	All	180
Ammonium Acetate	65	65
Ammonium Bicarbonate	50	135
Ammonium Bifluoride	100	125
Ammonium Bromide	43	135
Ammonium Carbonate	All	125
Ammonium Chloride	All	180
Ammonium Fluoride	All	125
Ammonium Hydroxide	20	125
Ammonium Nitrate	All	180
Ammonium Persulfate	All	150
Ammonium Phosphate, dibasic	All	180
Ammonium Sulfate	All	180
Ammonium Thiocyanate	20	180
Aniline	100	N.R.
B		
Barium Carbonate	All	180
Barium Chloride	All	180
Barium Cyanide	All	135
Barium Hydroxide	All	125
Beer		100
Benzene	100	N.R.
Benzoic Acid	Sat'd	180
Benzyl Alcohol	All	N.R.
Benzyl Chloride	100	N.R.
Black Liquor (Pulp Mill)	All	150
Bleaches:		
Calcium Hypochlorite	All	150
Chlorine Dioxide, Wet	Sat'd	170
Sodium Hypochlorite	18	153
Borax	100	180
Boric Acid	All	180
Brine	All	180
Bromine, Liquid	100	N.R.
Bunker C Fuel Oil	100	180
Butyl Acetate	100	100
Butyl Alcohol	All	100
Butyric Acid	100	65
C		
Calcium Bisulfite	All	150
Calcium Bromide	All	180
Calcium Carbonate	All	150
Calcium Chlorate	All	180
Calcium Chloride	All	180
Calcium Hydroxide	100	180
Calcium Hypochlorite	All	150
Calcium Nitrate	All	180
Calcium Sulfate	All	180
Calcium Sulfite	All	180
Capric Acid	All	65
Carbon Disulfide	100	N.R.
Carbon Tetrachloride	100	125
CARBOWAX Polyethylene Glycol	100	150
Carboxylethyl Cellulose	10	150
Castor Oil	100	125
Chlorine Water	Sat'd	200
Chlorine, wet gas	100	180
Chloroacetic Acid	25	100
Chlorobenzene	100	N.R.
Chloroform	100	N.R.
Chloropyridine (tetra)	100	100
CHLOROTHENE SM 1,1,1-Trichloroethane inhibited	100	85
Chromic Acid	10	130
Citric Acid	All	180
Coconut Oil	All	150
Copper Chloride	All	180
Copper Nitrate	All	180
Copper Sulfate	All	180
Corn Oil		150
Corn Starch	Slurry	180
Crude Oil	100	180
Cyclohexane	100	100
D		
Diammonium Phosphate	65	180
Dibutyl Sebacate	All	100
Dichloropropane	100	N.R.
Diesel Fuel	100	150
Diethanolamine	100	100
Dimethyl Formamide	100	N.R.
Dimethyl Phthalate	100	125
Dioctyl Phthalate	100	125
Diphenyl Oxide	100	65
E		
ESTERON Herbicide	100	100
Esters, Fatty Acid	100	150
Ethanol	95	65
Ethanolamine	100	N.R.

CHEMICAL	% CONCENTRATION	MAX TEMP °F
Ethyl Acetate	100	N.R.
Ethylene Glycol	All	180
Ethylenediaminetetraacetic Acid		85
F		
Ferric Chloride	All	180
Ferric Sulfate	All	180
Ferrous Chloride	All	180
Ferrous Sulfate	All	180
Fluosilicic Acid	10	150
Formaldehyde	All	125
Formic Acid	10	150
Fuel Oil	100	150
G		
Gasohol (5% MEOH)	100	100
Gasoline, Aviation	100	150
Gasoline, No Lead, No Methanol	100	100
Glucose	100	180
Glycerine	100	180
Glycolic Acid (Hydroxyacetic)	70	85
Glyconic Acid	50	150
H		
Herbicides		100
Hydraulic Fluid	100	150
Hydrazine	100	N.R.
Hydrobromic Acid	48	125
Hydrochloric Acid	20	150
Hydrofluoric Acid	10	125
Hydrogen Peroxide	30	125
Hypophosphorous Acid	50	100
I		
Insecticides		100
Isodecanol		100
Isopropyl Alcohol	All	100
Isopropyl Myristate	100	100
J		
Jet Fuel (JP-4)	100	150
K		
Kerosene	100	150
L		
Lactic Acid	All	180
Lauryl Alcohol	100	125
Lead Acetate	All	180
Linseed Oil	100	180
Lithium Chloride	Sat'd	180
Lithium Hypochlorite	All	150
M		
Magnesium Carbonate	All	150
Magnesium Chloride	All	180
Magnesium Fluosilicate	All	150
Magnesium Hydroxide	100	180
Magnesium Sulfate	All	180

CHEMICAL	% CONCENTRATION	MAX TEMP °F
Maleic Acid	100	180
Manganese Chloride	All	180
Mercurous Chloride	All	180
Methanol	5	100
Methyl Ethyl Ketone	100	N.R.
Milk	100	180
Mineral Oils	100	180
Molasses	100	100
Molybdenum Disulfide (Manufacturing)		170
Morpholine	100	N.R.
Motor Oil		180
Myristic Acid	100	180
N		
Nickel Chloride	All	180
Nickel Sulfate	All	180
Nitric Acid	20	100
Nitrobenzene	100	N.R.
O		
Octanoic Acid (Caprylic Acid)	100	150
Oleic Acid	All	180
Olive Oils	100	180
Oxalic Acid	Sat'd	100
P		
Palmitic Acid	100	180
Paper Mill Effluent		150
Peanut Oil	100	150
Perchloroethylene	100	65
Perchloric Acid	10	125
Perchloric Acid	30	85
Phosphoric Acid	100	180
Phosphorous Trichloride		N.R.
Pine Oil	100	N.R.
Polyethyleneimine	12	125
Polyvinyl Alcohol	All	85
Potassium Bicarbonate	50	150
Potassium Carbonate	50	150
Potassium Chloride	All	180
Potassium Dichromate	All	180
Potassium Hydroxide	10	125
Potassium Iodide	All	100
Potassium Nitrate	All	180
Potassium Permanganate	All	180
Potassium Persulfate	All	180
Potassium Sulfate	All	180
Propionic Acid	50	155
Pyridine	100	N.R.
Q		
R		
S		
Salicylic Acid	100	115
Skydrol	100	100

CHEMICAL	% CONCENTRATION	MAX TEMP °F
Sodium Acetate	All	180
Sodium Aluminate	All	100
Sodium Benzoate	100	155
Sodium Bicarbonate	Sat'd	155
Sodium Bisulfate	All	180
Sodium Borate	Sat'd	180
Sodium Bromide	All	180
Sodium Carbonate	35	155
Sodium Chlorate	50	180
Sodium Chloride, pH 5-10, Cl_2	Sat'd	155
Sodium Ferricyanide	All	180
Sodium Fluoride	All	155
Sodium Hydroxide	10	155
Sodium Hydroxide	50	180
Sodium Hypochlorite	18	180
Sodium Lauryl Sulfate	All	135
Sodium Phosphate	10	180
Sodium Sulfate	All	180
Sodium Sulfide	All	180
Sodium Sulfite	All	180
Sodium Thiosulfate	All	155
Sorbital Solutions	All	135
Stearic Acid	All	180
Styrene	100	N.R.
Styrene-Butadiene Latex		110
Sulphuric Acid	70	155
Sulphuric Acid	75	85
T		
Tartaric Acid	All	180
Tetrachloroethylene (Perchloroethylene)	100	65
Thioglycolic Acid (Mercaptoacetic Acid)	All	N.R.
Thionyl Chloride		N.R.
Toluene	100	65
Trichloroacetic Acid	50	180
Trisodium Phosphate	All	180
Turpentine	100	125
U		
Urea	50	125
V		
Vinegar	100	180
W		
X		
Xylene	100	65
Z		
Zinc Chloride	70	180
Zinc Sulfate	All	180





HUBBELL®

QUAZITE®/POLYCAST®
3621 Industrial Park Drive
Lenoir City, TN 37771
Phone: 800-346-3062 or 865-986-9726
Fax: 865-986-0585
Web: http://www.quazite.com
and http://www.polycastdrain.com
e-mail: hpsliterature@hubbell.com

© Copyright 2014
NOTE: Because Hubbell has a policy of continuous product improvement, we reserve the right to change design and specifications without notice.