



RPS Chemical Resistance Guide

HPPE Dual Laminate and FRP Piping Systems



RPS Chemical Resistance Guide



FRP and Dual Laminate piping systems are inherently resistant to chemical attack, and are often the material of choice for aggressive chemical services. RPS has developed a number of piping systems, which have been designed to provide outstanding resistance to a wide range of chemical environments. The RPS family of HPPE (High Performance Pre-Engineered) piping systems is composed of:

HPPE MAXAR™ Blue – Our standard corrosion-resistant fluoropolymer dual laminate (FEP/FRP) piping system; liner resists aggressive services up to 150°C/300°F.

HPPE MAXAR™ White – Our corrosion-resistant fluoropolymer dual laminate (PFA/FRP) piping system; liner resists aggressive services up to 230°C/450°F.

HPPE MAXAR™ Red – Our corrosion-resistant fluoropolymer dual laminate (PVDF/FRP) piping system; liner resists aggressive services up to 110°C/230°F and also provides excellent abrasion resistance.

HPPE P-150 – Our standard corrosion-resistant vinylester FRP piping system for a wide range of corrosive applications up to 82°C/180°F.

HPPE H-150 – Our high temperature corrosion-resistant vinylester FRP piping system, appropriate for corrosive applications up to 93°C/200°F.

HPPE H-150-200 – Our high temperature corrosion-resistant vinylester FRP piping system with a fortified corrosion barrier for more aggressive services with temperatures up to 104°C/220°F.

HPPE A-150 – Our corrosion and abrasion-resistant vinylester FRP piping system preferred for slurry services with > 5% solids and temperatures up to 82°C/180°F.

This Guide is intended as a reference to assist engineers in selecting and specifying FRP and Dual Laminate piping systems. The recommendations in this guide are based on corrosion testing, published information, case histories, and RPS judgement. It is RPS' belief that adherence to these recommendations, along with proper system design, installation, operation and maintenance, will result in excellent service life. However, the determination of the suitability of any piping products described in this Guide is the sole responsibility of the user. *RPS makes no warranties, expressed or implied, for the use of this information.*

How to Use this Guide:

The Guide contains hundreds of chemical environments with a rating and maximum temperature for which the rating applies. The ratings are:

- A – Long term chemical resistance can be expected up to the listed temperature. Note: For MAXAR™ piping, the temperatures represent the capability of the lining material. For services with temperatures above 82°C (180°F), RPS should be contacted for recommendations.
- B – Moderate service can be expected, but RPS should be contacted for recommendations to improve performance.
- C – Only limited service life can be expected (likely not more than 1 year). RPS should be contacted for recommendations to improve performance.
- NR – The product is not recommended for the service.

RPS HPPE FRP piping systems should be selected in preference to RPS HPPE MAXAR™ piping systems if they are suitable for the service as they will generally provide a more cost-effective solution.

Whatever your service requirements are, we encourage you to contact our technical staff to find the best solution for your chemical-resistant piping needs.

RPS Chemical Resistance Guide

| Chemical Environment | Concentration (wt % UNO) | HPPE Product | | | | | | |
|---------------------------------|-----------------------------|-------------------|------------------|------------------|-----------------|-----------------|------------------|-------|
| | | MAXAR™ Piping <1> | | | FRP Piping | | | |
| | | Blue (FEP) | White (PFA) | Red (PVDF) | P-150 | H-150 | H-150-200 | A-150 |
| Acetic Acid | 0.5 - 10 | A to 150°C/300°F | A to 230°C/450°F | A to 93°C/200°F | A to 82°C/180°F | A to 82°C/180°F | A to 82°C/180°F | |
| Acetic Acid | 11-25 | A to 150°C/300°F | A to 230°C/450°F | A to 93°C/200°F | A to 82°C/180°F | A to 82°C/180°F | A to 82°C/180°F | |
| Acetic Acid | 26 - 50 | A to 150°C/300°F | A to 230°C/450°F | A to 93°C/200°F | A to 82°C/180°F | A to 82°C/180°F | A to 82°C/180°F | |
| Acetic Acid | 51 - 75 | A to 150°C/300°F | A to 230°C/450°F | A to 52°C/125°F | A to 65°C/150°F | A to 65°C/150°F | A to 65°C/150°F | |
| Acetic Acid | 76 - 85 | A to 150°C/300°F | A to 230°C/450°F | A to 40°C/100°F | A to 40°C/110°F | A to 40°C/110°F | A to 40°C/110°F | |
| Acetic Acid | 86 - 98 | A to 150°C/300°F | A to 230°C/450°F | B to 23°C/75°F | NR | NR | NR | NR |
| Acetic Acid | 99 - 100 | A to 150°C/300°F | A to 230°C/450°F | C to 23°C/75°F | NR | NR | NR | NR |
| Alcoholic Spirits | All | A to 150°C/300°F | A to 93°C/200°F | A to 93°C/200°F | A to 40°C/100°F | A to 60°C/140°F | A to 60°C/140°F | |
| Alumina Hydrate | All | | | A to 110°C/230°F | A to 82°C/180°F | A to 82°C/180°F | A to 82°C/180°F | |
| Aluminum Chloride | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Aluminum Chlorohydrate | All | | | A to 77°C/170°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Aluminum Chlorohydroxide | 50 | | | A to 60°C/140°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Aluminum Hydroxide | 100 | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 82°C/180°F | A to 82°C/180°F | |
| Aluminum Nitrate | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Aluminum Sulfate | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Ammonia gas (dry) | 100 | A to 150°C/300°F | A to 230°C/450°F | NR | A to 40°C/100°F | A to 40°C/100°F | A to 40°C/100°F | |
| Ammonia gas (wet) | 100 | A to 93°C/200°F | | NR | A to 40°C/100°F | A to 40°C/100°F | A to 40°C/100°F | |
| Ammonia, fumes, wet | 40 vol % | A to 93°C/200°F | | B to 40°C/100°F | A to 82°C/180°F | A to 82°C/180°F | A to 82°C/180°F | |
| Ammonium Bicarbonate | All | A to 93°C/200°F | | A to 100°C/212°F | A to 70°C/160°F | A to 70°C/160°F | A to 70°C/160°F | |
| Ammonium Bisulfite black liquor | | | | A to 80°C/175°F | A to 82°C/180°F | A to 82°C/180°F | A to 82°C/180°F | |

A = Long term chemical resistance can be expected (See Note 1).

B = Moderate service can be expected. Contact RPS for recommendations to improve performance.

C = Only limited service can be expected. Contact RPS for recommendations to improve performance.

NR = Not recommended

Blank = Data not available

Notes:

1. Temperatures listed for MAXAR™ represent capability of lining material. For service temperatures above 82°C/180°F, contact RPS for recommendations.
2. Service may cause blisters to form in corrosion barrier.
3. Service may discolor corrosion barrier.
4. A-150 is preferred for slurry services.
5. Customized P-150 or H-150 available with A rating at listed temperature. Contact RPS for more information.

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RPS Chemical Resistance Guide

| Chemical Environment | Concentration (wt % UNO) | HPPE Product | | | | | | |
|-----------------------------------|-------------------------------|-------------------|------------------|------------------|---------------------|---------------------|------------------|-------|
| | | MAXAR™ Piping <1> | | | FRP Piping | | | |
| | | Blue (FEP) | White (PFA) | Red (PVDF) | P-150 | H-150 | H-150-200 | A-150 |
| Ammonium Bisulfite cooking liquor | | | | A to 80°C/175°F | A to 65°C/150°F | A to 65°C/150°F | A to 65°C/150°F | |
| Ammonium Bromide | All | | | A to 110°C/230°F | A to 70°C/160°F | A to 70°C/160°F | A to 70°C/160°F | |
| Ammonium Carbonate | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 65°C/150°F | A to 65°C/150°F | A to 65°C/150°F | |
| Ammonium Chloride | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Ammonium Fluoride | Sat'd | A to 150°C/300°F | A to 230°C/450°F | A to 65°C/150°F | B to 65°C/150°F <5> | B to 65°C/150°F <5> | C to 65°C/150°F | NR |
| Ammonium Hydroxide | 0.5 - 5 (as NH ₃) | A to 150°C/300°F | A to 230°C/450°F | A to 93°C/200°F | A to 82°C/180°F | A to 65°C/150°F | A to 65°C/150°F | |
| Ammonium Hydroxide | 6 - 20 (as NH ₃) | A to 150°C/300°F | A to 230°C/450°F | A to 93°C/200°F | A to 65°C/150°F | A to 40°C/100°F | A to 40°C/100°F | |
| Ammonium Nitrate | All | A to 140°C/280°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Ammonium Phosphate, dibasic | All | A to 140°C/280°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Ammonium Phosphate, monobasic | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Ammonium Sulfate | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Arsenic Acid | > 0.5 | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 82°C/180°F | A to 82°C/180°F | |
| Barium Bromide | All | | | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Barium Carbonate (slurry) | All | A to 93°C/200°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 82°C/180°F | A to 82°C/180°F | |
| Barium Chloride | All | A to 93°C/200°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Barium Hydroxide | > 0.5 | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 65°C/150°F | A to 65°C/150°F | A to 65°C/150°F | |
| Barium Sulfate | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 82°C/180°F | A to 80°C/176°F | |
| Black Liquor (pulp & kraft mill) | Thin | A to 150°C/300°F | A to 230°C/450°F | A to 80°C/175°F | B to 82°C/180°F <5> | B to 82°C/180°F <5> | C to 82°C/180°F | NR |

A = Long term chemical resistance can be expected (See Note 1).

B = Moderate service can be expected. Contact RPS for recommendations to improve performance.

C = Only limited service can be expected. Contact RPS for recommendations to improve performance.

NR = Not recommended

Blank = Data not available

Notes:

1. Temperatures listed for MAXAR™ represent capability of lining material. For service temperatures above 82°C/180°F, contact RPS for recommendations.
2. Service may cause blisters to form in corrosion barrier.
3. Service may discolor corrosion barrier.
4. A-150 is preferred for slurry services.
5. Customized P-150 or H-150 available with A rating at listed temperature. Contact RPS for more information.

Continued...

RPS Chemical Resistance Guide

| Chemical Environment | Concentration (wt % UNO) | HPPE Product | | | | | | |
|---|-----------------------------|----------------------|----------------------|------------------|---------------------|---------------------|----------------------|-----------------|
| | | MAXAR™ Piping <1> | | | FRP Piping | | | |
| | | Blue (FEP) | White (PFA) | Red (PVDF) | P-150 | H-150 | H-150-200 | A-150 |
| Black Liquor, thick, heavy (pulp & kraft mill) | Thick | A to 150°C/300°F | A to 230°C/450°F | A to 80°C/175°F | B to 82°C/180°F <5> | B to 82°C/180°F <5> | C to 82°C/180°F | NR |
| Boric Acid | > 0.5 | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Brine, chlorinated, pH < 2.5 | All | A to 150°C/300°F <2> | A to 230°C/450°F | A to 93°C/200°F | B to 82°C/180°F | B to 82°C/180°F | A to 95°C/200°F | NR |
| Brine, chlorinated, pH 2.5 - 9 | All | A to 150°C/300°F <2> | A to 230°C/450°F | A to 93°C/200°F | A to 40°C/100°F | A to 40°C/100°F | A to 40°C/100°F | |
| Brine, chlorinated, pH > 9 | All | A to 150°C/300°F <2> | A to 230°C/450°F | A to 93°C/200°F | C to 82°C/180°F | C to 65°C/150°F | B to 65°C/150°F | NR |
| Brine, salt | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Bromine liquid | All | A to 93°C/200°F | A to 230°C/450°F | A to 52°C/125°F | NR | NR | NR | NR |
| Bromine water | Sat'd | A to 150°C/300°F | A to 230°C/450°F | A to 93°C/200°F | A to 75°C/165°F | | | |
| Brown stock | | | | A to 80°C/175°F | A to 82°C/180°F | A to 82°C/180°F | A to 82°C/180°F | |
| Butadiene | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 40°C/100°F | A to 40°C/100°F | A to 40°C/100°F | |
| Calcium Bisulfite | All | A to 150°C/300°F | A to 230°C/450°F | A to 93°C/200°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Calcium Bromide | All | | | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Calcium Carbonate (slurry) | All | A to 150°C/300°F <4> | A to 230°C/450°F <4> | A to 110°C/230°F | A to 82°C/180°F <4> | A to 82°C/180°F <4> | A to 82°C/180°F <4> | A to 82°C/180°F |
| Calcium Chlorate | All | | | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Calcium Chloride | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Calcium Hydroxide | 100 | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | B to 82°C/180°F <5> | B to 65°C/150°F <5> | C to 65°C/150°F | NR |
| Calcium Hypochlorite | All | A to 150°C/300°F | A to 230°C/450°F | A to 93°C/200°F | C to 82°C/180°F | C to 82°C/180°F | B to 82°C/180°F | NR |
| Calcium Nitrate | > 0.5 | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Calcium Sulfate | All | A to 150°C/300°F <4> | A to 230°C/450°F <4> | A to 110°C/230°F | A to 82°C/180°F <4> | A to 93°C/200°F <4> | A to 100°C/212°F <4> | A to 82°C/180°F |
| Calcium Sulfite | All | A to 21°C/70°F | | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Carbon Dioxide | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | A to 82°C/180°F |

A = Long term chemical resistance can be expected (See Note 1).

B = Moderate service can be expected. Contact RPS for recommendations to improve performance.

C = Only limited service can be expected. Contact RPS for recommendations to improve performance.

NR = Not recommended

Blank = Data not available

Notes:

1. Temperatures listed for MAXAR™ represent capability of lining material. For service temperatures above 82°C/180°F, contact RPS for recommendations.
2. Service may cause blisters to form in corrosion barrier.
3. Service may discolor corrosion barrier.
4. A-150 is preferred for slurry services.
5. Customized P-150 or H-150 available with A rating at listed temperature. Contact RPS for more information.

Continued...

RPS Chemical Resistance Guide

| Chemical Environment | Concentration (wt % UNO) | HPPE Product | | | | | | |
|--|-----------------------------|----------------------|----------------------|------------------|-----------------|-----------------|------------------|-------|
| | | MAXAR™ Piping <1> | | | FRP Piping | | | |
| | | Blue (FEP) | White (PFA) | Red (PVDF) | P-150 | H-150 | H-150-200 | A-150 |
| Chlorinated Brine; see Brine, chlorinated | | | | | | | | |
| Chlorinated Pulp | All | | | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 93°C/200°F | |
| Chlorine Dioxide, Chlorine (bleaching solution, with or without pulp) | All | | | A to 65°C/150°F | A to 82°C/180°F | A to 93°C/200°F | A to 93°C/200°F | |
| Chlorine Dioxide, no Chlorine (bleaching solution, with or without pulp) | All | | | A to 65°C/150°F | A to 82°C/180°F | A to 93°C/200°F | A to 93°C/200°F | |
| Chlorine, dry gas, acidic pH | 100 | A to 150°C/300°F | A to 150°C/300°F | A to 77°C/170°F | B to 82°C/180°F | B to 93°C/200°F | A to 100°C/212°F | NR |
| Chlorine, wet gas, acidic pH | 100 | A to 150°C/300°F <2> | A to 150°C/300°F <2> | A to 77°C/170°F | B to 82°C/180°F | B to 93°C/200°F | A to 100°C/212°F | NR |
| Chlorine liquid | 100 | A to 150°C/300°F <2> | A to 150°C/300°F <2> | A to 80°C/175°F | | | | |
| Chloroacetic Acid (Monochloroacetic Acid) | 1 | A to 150°C/300°F | A to 230°C/450°F | A to 93°C/200°F | A to 50°C/120°F | A to 50°C/120°F | A to 50°C/120°F | |
| Chloroacetic Acid | 2 - 25 | A to 150°C/300°F | A to 230°C/450°F | B to 40°C/100°F | A to 50°C/120°F | A to 50°C/120°F | A to 50°C/120°F | |
| Chloroacetic Acid | 26 - 50 | A to 150°C/300°F | A to 230°C/450°F | C to 40°C/100°F | A to 40°C/100°F | A to 40°C/100°F | A to 40°C/100°F | |
| Chloroacetic Acid | 51 - 85 | A to 150°C/300°F | A to 230°C/450°F | C to 23°C/75°F | A to 25°C/80°F | A to 25°C/80°F | A to 25°C/80°F | |
| Chloroacetic Acid | 86 - 100 | A to 150°C/300°F | A to 230°C/450°F | NR | NR | NR | NR | NR |
| Chromic Acid | 0.5 - 10 | A to 150°C/300°F | A to 230°C/450°F | A to 93°C/200°F | A to 65°C/150°F | A to 65°C/150°F | A to 65°C/150°F | |
| Chromic Acid | 11-20 | A to 150°C/300°F | A to 230°C/450°F | A to 82°C/180°F | A to 50°C/120°F | A to 65°C/150°F | A to 65°C/150°F | |
| Chromic Acid | 30 | | | A to 80°C/175°F | NR | NR | NR | NR |
| Chromic Acid | 40 | A to 150°C/300°F | A to 230°C/450°F | A to 80°C/175°F | NR | NR | NR | NR |

A = Long term chemical resistance can be expected (See Note 1).

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C = Only limited service can be expected. Contact RPS for recommendations to improve performance.

NR = Not recommended

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Notes:

1. Temperatures listed for MAXAR™ represent capability of lining material. For service temperatures above 82°C/180°F, contact RPS for recommendations.
2. Service may cause blisters to form in corrosion barrier.
3. Service may discolor corrosion barrier.
4. A-150 is preferred for slurry services.
5. Customized P-150 or H-150 available with A rating at listed temperature. Contact RPS for more information.

Continued...

RPS Chemical Resistance Guide

| Chemical Environment | Concentration (wt % UNO) | HPPE Product | | | | | | |
|----------------------|-----------------------------|----------------------|----------------------|------------------|---------------------|---------------------|----------------------|-----------------|
| | | MAXAR™ Piping <1> | | | FRP Piping | | | |
| | | Blue (FEP) | White (PFA) | Red (PVDF) | P-150 | H-150 | H-150-200 | A-150 |
| Citric Acid | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 100°C/212°F | A to 100°C/212°F | |
| Cobalt Sulfate | All | A to 150°C/300°F <4> | A to 230°C/450°F <4> | A to 100°C/212°F | A to 82°C/180°F <4> | A to 93°C/200°F <4> | A to 100°C/212°F <4> | A to 82°C/180°F |
| Copper Chloride | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Copper Nitrate | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Copper Sulfate | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Corn Syrup | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 100°C/212°F | A to 100°C/212°F | |
| Crude Oil | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 100°C/212°F | A to 100°C/212°F | |
| Diesel Fuel | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 100°C/212°F | A to 100°C/212°F | |
| Ethanol | All | A to 150°C/300°F | A to 230°C/450°F | | NR | NR | NR | NR |
| Ethyl Acetate | All | A to 150°C/300°F | A to 230°C/450°F | NR | NR | NR | NR | NR |
| Ethylene Dichloride | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | NR | NR | NR | NR |
| Ferric Chloride | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Ferric Sulfate | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Ferrous Chloride | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Ferrous Sulfate | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Formaldehyde | 37 | A to 150°C/300°F | A to 230°C/450°F | A to 52°C/125°F | A to 65°C/150°F | A to 65°C/150°F | A to 65°C/150°F | |
| Formaldehyde | 50 | A to 150°C/300°F | A to 230°C/450°F | | | | | |
| Formaldehyde | 100 | A to 150°C/300°F | A to 150°C/300°F | | | | | |
| Formic Acid | 10 | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 82°C/180°F | A to 82°C/180°F | |
| Formic Acid | 25 | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 50°C/120°F | A to 65°C/150°F | A to 65°C/150°F | |

A = Long term chemical resistance can be expected (See Note 1).

B = Moderate service can be expected. Contact RPS for recommendations to improve performance.

C = Only limited service can be expected. Contact RPS for recommendations to improve performance.

NR = Not recommended

Blank = Data not available

Notes:

1. Temperatures listed for MAXAR™ represent capability of lining material. For service temperatures above 82°C/180°F, contact RPS for recommendations.
2. Service may cause blisters to form in corrosion barrier.
3. Service may discolor corrosion barrier.
4. A-150 is preferred for slurry services.
5. Customized P-150 or H-150 available with A rating at listed temperature. Contact RPS for more information.

Continued...

RPS Chemical Resistance Guide

| Chemical Environment | Concentration (wt % UNO) | HPPE Product | | | | | | |
|--|-----------------------------|----------------------|----------------------|------------------|---------------------|---------------------|----------------------|-----------------|
| | | MAXAR™ Piping <1> | | | FRP Piping | | | |
| | | Blue (FEP) | White (PFA) | Red (PVDF) | P-150 | H-150 | H-150-200 | A-150 |
| Formic Acid | 50 | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 50°C/120°F | A to 50°C/120°F | A to 50°C/120°F | |
| Formic Acid | 85 | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 25°C/80°F | A to 25°C/80°F | A to 25°C/80°F | |
| Formic Acid | 100 | A to 150°C/300°F | A to 230°C/450°F | A to 65°C/150°F | NR | A to 40°C/100°F | A to 40°C/100°F | NR |
| Fructose | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 100°C/212°F | A to 100°C/212°F | |
| Gasoline | | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | NR | A to 60°C/140°F | A to 60°C/140°F | NR |
| Glucose | | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 100°C/212°F | A to 100°C/212°F | |
| Green Liquor | All | A to 93°C/200°F | | A to 110°C/230°F | B to 82°C/180°F <5> | B to 82°C/180°F <5> | B to 82°C/180°F | NR |
| Gypsum Slurry, see also Calcium Sulfate | All | A to 150°C/300°F <4> | A to 230°C/450°F <4> | A to 110°C/230°F | A to 82°C/180°F <4> | A to 93°C/200°F <4> | A to 100°C/212°F <4> | A to 82°C/180°F |
| Hydrobromic Acid | 1 - 25 | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 82°C/180°F | A to 82°C/180°F | |
| Hydrobromic Acid | 48 | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 65°C/150°F | A to 65°C/150°F | A to 65°C/150°F | |
| Hydrobromic Acid | 62 | A to 150°C/300°F | A to 230°C/450°F | A to 65°C/150°F | A to 40°C/100°F | A to 40°C/100°F | A to 40°C/100°F | |
| Hydrochloric Acid | 1 - 15 | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | B to 82°C/180°F | B to 93°C/200°F | A to 100°C/212°F | NR |
| Hydrochloric Acid | 16 - 20 | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | C to 82°C/180°F | B to 93°C/200°F | A to 100°C/212°F | NR |
| Hydrochloric Acid | 21 - 32 | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | NR | C to 82°C/180°F | A to 82°C/180°F | NR |
| Hydrochloric Acid | 33 - 34 | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | NR | C to 82°C/180°F | A to 70°C/160°F | NR |
| Hydrochloric Acid | 35 - 36 | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | NR | NR | A to 60°C/140°F | NR |
| Hydrochloric Acid | 37 | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | NR | NR | A to 50°C/120°F | NR |
| Hydrocyanic Acid | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Hydrofluoric Acid | 1 - 15 | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | C to 65°C/150°F | C to 40°C/100°F | NR | NR |
| Hydrofluoric Acid | 20 | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | C to 40°C/100°F | C to 40°C/100°F | NR | NR |

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B = Moderate service can be expected. Contact RPS for recommendations to improve performance.

C = Only limited service can be expected. Contact RPS for recommendations to improve performance.

NR = Not recommended

Blank = Data not available

Notes:

1. Temperatures listed for MAXAR™ represent capability of lining material. For service temperatures above 82°C/180°F, contact RPS for recommendations.
2. Service may cause blisters to form in corrosion barrier.
3. Service may discolor corrosion barrier.
4. A-150 is preferred for slurry services.
5. Customized P-150 or H-150 available with A rating at listed temperature. Contact RPS for more information.

Continued...

RPS Chemical Resistance Guide

| Chemical Environment | Concentration (wt % UNO) | HPPE Product | | | | | | |
|--|-----------------------------|----------------------|----------------------|------------------|---------------------|---------------------|---------------------|-----------------|
| | | MAXAR™ Piping <1> | | | FRP Piping | | | |
| | | Blue (FEP) | White (PFA) | Red (PVDF) | P-150 | H-150 | H-150-200 | A-150 |
| Hydrofluoric Acid | 40 | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | | | | |
| Hydrogen Gas | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | | | | |
| Hydrogen Bromide | 50 | A to 150°C/300°F | A to 230°C/450°F | | A to 82°C/180°F | A to 82°C/180°F | A to 82°C/180°F | |
| Hydrogen Bromide | 100 | A to 150°C/300°F | A to 150°C/300°F | | A to 82°C/180°F | A to 82°C/180°F | A to 82°C/180°F | |
| Hydrogen Peroxide | All | A to 150°C/300°F | A to 230°C/450°F | | NR | NR | NR | NR |
| Hydrogen Sulfide, aqueous | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Hypochlorous Acid | All | A to 150°C/300°F | A to 230°C/450°F | | | | | |
| Isopropanol | All | A to 150°C/300°F | A to 230°C/450°F | A to 60°C/140°F | A to 50°C/120°F | A to 50°C/120°F | A to 50°C/120°F | |
| Jet Fuel (JP4,JP5) | All | A to 150°C/300°F | A to 230°C/450°F | A to 93°C/200°F | A to 60°C/140°F | A to 82°C/180°F | A to 82°C/180°F | |
| Kerosene | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 60°C/140°F | A to 82°C/180°F | A to 82°C/180°F | |
| Lime Slurry, see also Calcium Hydroxide | 100 | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | B to 82°C/180°F <5> | B to 65°C/150°F <5> | C to 65°C/150°F | NR |
| Limestone Slurry, see also Calcium Carbonate | All | A to 150°C/300°F <4> | A to 230°C/450°F <4> | A to 110°C/230°F | A to 82°C/180°F <4> | A to 82°C/180°F <4> | A to 82°C/180°F <4> | A to 82°C/180°F |
| Lithium Bromide | All | A to 150°C/300°F | | A to 105°C/220°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Lithium Carbonate | All | | | B to 40°C/100°F | B to 82°C/180°F <5> | B to 82°C/180°F <5> | C to 82°C/180°F | NR |
| Lithium Chloride | All | A to 52°C/125°F | A to 93°C/200°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Lithium Hexafluorophosphate | All | A to 150°C/300°F | A to 150°C/300°F | C to 25°C/80°F | A to 70°C/160°F | A to 82°C/180°F | NR | A to 70°C/160°F |
| Lithium Hydroxide | All | A to 52°C/125°F | A to 93°C/200°F | A to 105°C/220°F | B to 82°C/180°F <5> | B to 82°C/180°F <5> | C to 82°C/180°F | NR |
| Lithium Hypochlorite | All | | | A to 50°C/120°F | C to 82°C/180°F | C to 82°C/180°F | B to 82°C/180°F | NR |
| Magnesium Carbonate | All | A to 150°C/300°F | A to 205°C/400°F | A to 110°C/230°F | A to 82°C/180°F | A to 82°C/180°F | A to 82°C/180°F | |

A = Long term chemical resistance can be expected (See Note 1).

B = Moderate service can be expected. Contact RPS for recommendations to improve performance.

C = Only limited service can be expected. Contact RPS for recommendations to improve performance.

NR = Not recommended

Blank = Data not available

Notes:

1. Temperatures listed for MAXAR™ represent capability of lining material. For service temperatures above 82°C/180°F, contact RPS for recommendations.
2. Service may cause blisters to form in corrosion barrier.
3. Service may discolor corrosion barrier.
4. A-150 is preferred for slurry services.
5. Customized P-150 or H-150 available with A rating at listed temperature. Contact RPS for more information.

Continued...

RPS Chemical Resistance Guide

| Chemical Environment | Concentration (wt % UNO) | HPPE Product | | | | | | |
|----------------------|-----------------------------|-------------------|------------------|------------------|-----------------|-----------------|------------------|-------|
| | | MAXAR™ Piping <1> | | | FRP Piping | | | |
| | | Blue (FEP) | White (PFA) | Red (PVDF) | P-150 | H-150 | H-150-200 | A-150 |
| Magnesium Chloride | All | A to 150°C/300°F | A to 205°C/400°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Magnesium Hydroxide | All | A to 150°C/300°F | A to 205°C/400°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Magnesium Nitrate | All | A to 150°C/300°F | A to 205°C/400°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Magnesium Phosphate | All | | | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Magnesium Sulfate | All | A to 150°C/300°F | A to 205°C/400°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Methanol | All | A to 150°C/300°F | A to 205°C/400°F | A to 110°C/230°F | NR | NR | NR | NR |
| Methyl Bromide | All | A to 150°C/300°F | A to 205°C/400°F | A to 110°C/230°F | NR | NR | NR | NR |
| Nickel Chloride | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Nickel Nitrate | > 0.5 | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Nitric Acid | 1 | A to 150°C/300°F | A to 230°C/450°F | A to 80°C/176°F | A to 82°C/180°F | A to 82°C/180°F | A to 82°C/180°F | |
| Nitric Acid | 2 - 5 | A to 150°C/300°F | A to 230°C/450°F | A to 80°C/176°F | A to 65°C/150°F | A to 82°C/180°F | A to 82°C/180°F | |
| Nitric Acid | 6 - 10 | A to 150°C/300°F | A to 230°C/450°F | A to 80°C/176°F | A to 65°C/150°F | A to 65°C/150°F | A to 65°C/150°F | |
| Nitric Acid | 11 - 20 | A to 150°C/300°F | A to 230°C/450°F | A to 65°C/150°F | A to 50°C/120°F | A to 65°C/150°F | A to 65°C/150°F | |
| Nitric Acid | 21 - 29 | A to 150°C/300°F | A to 230°C/450°F | A to 65°C/150°F | NR | A to 50°C/120°F | A to 50°C/120°F | NR |
| Nitric Acid | 30 - 35 | A to 150°C/300°F | A to 230°C/450°F | A to 65°C/150°F | NR | A to 40°C/120°F | A to 40°C/120°F | NR |
| Nitric Acid | 36 - 40 | A to 150°C/300°F | A to 230°C/450°F | A to 65°C/150°F | NR | NR | A to 25°C/80°F | NR |
| Nitric Acid | 50 | A to 150°C/300°F | A to 230°C/450°F | A to 65°C/150°F | NR | NR | NR | NR |
| Nitric Acid | 70 | A to 150°C/300°F | A to 230°C/450°F | A to 65°C/150°F | NR | NR | NR | NR |
| Perchloric Acid | 5 | A to 150°C/300°F | A to 230°C/450°F | A to 93°C/200°F | A to 82°C/180°F | A to 82°C/180°F | A to 82°C/180°F | |
| Perchloric Acid | 10 | A to 150°C/300°F | A to 230°C/450°F | A to 93°C/200°F | A to 65°C/150°F | A to 65°C/150°F | A to 65°C/150°F | |
| Perchloric Acid | 30 | A to 150°C/300°F | A to 230°C/450°F | A to 65°C/150°F | A to 40°C/120°F | A to 40°C/120°F | A to 40°C/120°F | |

A = Long term chemical resistance can be expected (See Note 1).

B = Moderate service can be expected. Contact RPS for recommendations to improve performance.

C = Only limited service can be expected. Contact RPS for recommendations to improve performance.

NR = Not recommended

Blank = Data not available

Notes:

1. Temperatures listed for MAXAR™ represent capability of lining material. For service temperatures above 82°C/180°F, contact RPS for recommendations.
2. Service may cause blisters to form in corrosion barrier.
3. Service may discolor corrosion barrier.
4. A-150 is preferred for slurry services.
5. Customized P-150 or H-150 available with A rating at listed temperature. Contact RPS for more information.

Continued...

RPS Chemical Resistance Guide

| Chemical Environment | Concentration (wt % UNO) | HPPE Product | | | | | | |
|-------------------------------|-----------------------------|-------------------|------------------|------------------|---------------------|---------------------|------------------|-------|
| | | MAXAR™ Piping <1> | | | FRP Piping | | | |
| | | Blue (FEP) | White (PFA) | Red (PVDF) | P-150 | H-150 | H-150-200 | A-150 |
| Phosphoric Acid | 0.5 - 100 | A to 150°C/300°F | A to 150°C/300°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Phosphorous Acid | 70 | A to 150°C/300°F | A to 230°C/450°F | A to 23°C/75°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Potassium Bicarbonate | All | A to 150°C/300°F | A to 230°C/450°F | A to 93°C/200°F | A to 82°C/180°F | A to 82°C/180°F | A to 82°C/180°F | |
| Potassium Bromide | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Potassium Carbonate | 0 - 50 | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | B to 82°C/180°F <5> | B to 40°C/120°F <5> | B to 40°C/120°F | NR |
| Potassium Chloride | All | A to 150°C/300°F | A to 205°C/400°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Potassium Fluoride | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | B to 82°C/180°F <5> | B to 82°C/180°F <5> | B to 82°C/180°F | NR |
| Potassium Hydroxide | 0 - 50 | A to 150°C/300°F | A to 230°C/450°F | C to 40°C/100°F | B to 65°C/150°F <5> | NR | NR | NR |
| Potassium Sulfate | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Salt Brine | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Sea Water | | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Silicon Tetrachloride | All | A to 38°C/100°F | | A to 52°C/125°F | | | | |
| Silver Nitrate | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Sodium Bicarbonate | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 82°C/180°F | A to 82°C/180°F | |
| Sodium Bichromate | All | A to 150°C/300°F | A to 230°C/450°F | | | | | |
| Sodium Bromate | All | A to 93°C/200°F | A to 93°C/200°F | A to 93°C/200°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Sodium Bromide | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Sodium Carbonate | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | B to 82°C/180°F <5> | B to 65°C/150°F <5> | C to 65°C/150°F | NR |
| Sodium Chlorate | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Sodium Chloride (Brine, salt) | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Sodium Cyanide | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |

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B = Moderate service can be expected. Contact RPS for recommendations to improve performance.

C = Only limited service can be expected. Contact RPS for recommendations to improve performance.

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Notes:

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2. Service may cause blisters to form in corrosion barrier.
3. Service may discolor corrosion barrier.
4. A-150 is preferred for slurry services.
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Continued...

RPS Chemical Resistance Guide

| Chemical Environment | Concentration (wt % UNO) | HPPE Product | | | | | | |
|--|-----------------------------|-------------------|------------------|------------------|---------------------|---------------------|------------------|-------|
| | | MAXAR™ Piping <1> | | | FRP Piping | | | |
| | | Blue (FEP) | White (PFA) | Red (PVDF) | P-150 | H-150 | H-150-200 | A-150 |
| Sodium Hydroxide | 0.5 | A to 150°C/300°F | A to 93°C/200°F | A to 23°C/75°F | B to 82°C/180°F <5> | B to 82°C/180°F <5> | NR | NR |
| Sodium Hydroxide | 1 | A to 150°C/300°F | A to 93°C/200°F | A to 52°C/125°F | B to 82°C/180°F <5> | B to 82°C/180°F <5> | NR | NR |
| Sodium Hydroxide | 5 | A to 150°C/300°F | A to 93°C/200°F | A to 23°C/75°F | B to 82°C/180°F <5> | B to 40°C/100°F <5> | NR | NR |
| Sodium Hydroxide | 10 | A to 150°C/300°F | A to 93°C/200°F | A to 23°C/75°F | B to 65°C/150°F <5> | NR | NR | NR |
| Sodium Hydroxide | 25 | A to 150°C/300°F | A to 93°C/200°F | B to 40°C/100°F | B to 65°C/150°F <5> | NR | NR | NR |
| Sodium Hydroxide | 50 | A to 150°C/300°F | A to 93°C/200°F | B to 23°C/75°F | B to 82°C/180°F <5> | NR | NR | NR |
| Sodium Hypochlorite (stable, alkaline pH > 11) | 2 - 5 | A to 150°C/300°F | A to 93°C/200°F | A to 110°C/230°F | B to 65°C/180°F | C to 40°C/100°F | B to 40°C/100°F | NR |
| Sodium Hypochlorite (stable, alkaline pH > 11) | 6 - 15 | A to 150°C/300°F | A to 93°C/200°F | A to 93°C/200°F | B to 50°C/120°F <5> | NR | NR | NR |
| Sodium Nitrate | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Sodium Sulfate | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Sodium Sulfide | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Sodium Sulfite | All | | | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Solvent Extraction Solutions (3% Isodecanol, 6% Amines tri-C8-C10-alkyl, 91% Kerosene) | | | | | A to 82°C/180°F | A to 82°C/180°F | A to 82°C/180°F | |
| Solvent Extraction Solutions (4% Triethylphosphine Oxide (TOPO), 4% Di 2-Ethylhexyl Phosphoric Acid (DEHPA), 92% Kerosene) | | | | | A to 82°C/180°F | A to 82°C/180°F | A to 82°C/180°F | |

A = Long term chemical resistance can be expected (See Note 1).

B = Moderate service can be expected. Contact RPS for recommendations to improve performance.

C = Only limited service can be expected. Contact RPS for recommendations to improve performance.

NR = Not recommended

Blank = Data not available

Notes:

1. Temperatures listed for MAXAR™ represent capability of lining material. For service temperatures above 82°C/180°F, contact RPS for recommendations.
2. Service may cause blisters to form in corrosion barrier.
3. Service may discolor corrosion barrier.
4. A-150 is preferred for slurry services.
5. Customized P-150 or H-150 available with A rating at listed temperature. Contact RPS for more information.

Continued...

RPS Chemical Resistance Guide

| Chemical Environment | Concentration (wt % UNO) | HPPE Product | | | | | | |
|------------------------------|-----------------------------|-------------------|------------------|------------------|---------------------|---------------------|---------------------|-----------------|
| | | MAXAR™ Piping <1> | | | FRP Piping | | | |
| | | Blue (FEP) | White (PFA) | Red (PVDF) | P-150 | H-150 | H-150-200 | A-150 |
| Steam, dry (no condensation) | | A to 230°C/450°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Steam, wet (condensation) | | A to 230°C/450°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 82°C/180°F | A to 82°C/180°F | |
| Sulfuric Acid | 0.5 - 25 | A to 205°C/400°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Sulfuric Acid | 26 - 50 | A to 205°C/400°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Sulfuric Acid | 51 - 70 | A to 205°C/400°F | A to 230°C/450°F | A to 93°C/200°F | A to 82°C/180°F <3> | A to 82°C/180°F <3> | A to 82°C/180°F <3> | |
| Sulfuric Acid | 71 - 75 | A to 205°C/400°F | A to 230°C/450°F | A to 93°C/200°F | A to 40°C/100°F <3> | A to 50°C/120°F <3> | A to 50°C/120°F <3> | |
| Sulfuric Acid | 76 - 80 | A to 205°C/400°F | A to 230°C/450°F | A to 93°C/200°F | A to 40°C/100°F <3> | A to 40°C/100°F <3> | A to 40°C/100°F <3> | |
| Sulfuric Acid | 81 - 92 | A to 205°C/400°F | A to 230°C/450°F | A to 93°C/200°F | NR | NR | NR | NR |
| Sulfuric Acid | 93 - 98 | A to 205°C/400°F | A to 230°C/450°F | A to 65°C/150°F | NR | NR | NR | NR |
| Sulfuric Acid | > 98 | A to 205°C/400°F | A to 230°C/450°F | | NR | NR | NR | NR |
| Tall Oil | All | A to 150°C/300°F | A to 230°C/450°F | A to 110°C/230°F | A to 82°C/180°F | A to 93°C/200°F | A to 100°C/212°F | |
| Titanium Dioxide | All | | | A to 93°C/200°F | A to 82°C/180°F <4> | A to 82°C/180°F <4> | A to 82°C/180°F <4> | A to 82°C/180°F |
| Water, Deionized | 100 | A to 150°C/300°F | A to 100°C/212°F | A to 110°C/230°F | A to 82°C/180°F <2> | A to 82°C/180°F <2> | A to 82°C/180°F <2> | |
| Water, Demineralized | 100 | A to 150°C/300°F | A to 100°C/212°F | A to 110°C/230°F | A to 82°C/180°F <2> | A to 82°C/180°F <2> | A to 82°C/180°F <2> | |
| Water, Distilled | 100 | A to 150°C/300°F | A to 100°C/212°F | A to 110°C/230°F | A to 82°C/180°F <2> | A to 82°C/180°F <2> | A to 82°C/180°F <2> | |
| White Liquor | All | A to 150°C/300°F | A to 93°C/200°F | | B to 82°C/180°F | B to 82°C/180°F | B to 82°C/180°F | |
| Xylene | All | A to 150°C/300°F | A to 230°C/450°F | A to 95°C/200°F | A to 25°C/80°F | A to 25°C/80°F | A to 25°C/80°F | |
| Zinc Bromide | All | A to 21°C/70°F | | A to 110°C/230°F | A to 82°C/180°F | A to 100°C/212°F | A to 100°C/212°F | |

For more information: RPSComposites.com
Advisor@RPSComposites.com
1-800-343-9355

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