H&F MANUFACTURING CORPORATION
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MANUFACTURING CORP.

# Phase-2 PVC

H&F MANUFACTURING CORPORATION | 116 RAILROAD DRIVE | IVYLAND PA 18974


Industrial


Light Industrial


Chemical


Commercial

### Phase-2 PVC Corrugated Siding, Roofing and Louver Panels are unquestionably the most versatile and widely used

Phase-2 PVC Siding, Roofing and Louver Panels are solid, heavy gauge Polyvinyl Chloride (PVC) extruded sheets that maintain color and structural integrity under the tougest weather conditions and physical abuse. Phase-2 PVC offers a Non-Combustible Flame Spread Rating of 12 and performs exceptionally in resisting most corrosive conditions from many organic and inorganic chemical fumes and liquids. Phase-2 PVC is completely UV resistant, will not yellow or discolor and will block out harmful UV radiation.

### Other Industries

- Coal and metal mining
- Food manufacturing
- Government
- Power plants
- Transportation
- Waste water treatment
- And many more

### Other Applications

- Canopies
- Cooling tower louvers and casing
- Elevator enclosures
- Barriers and partitions
- Lean-to's
- Salt storage facilities
- Storage facilities
- Skylights, awnings, translucent roofing

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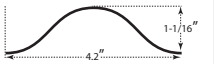
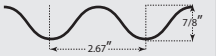
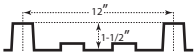
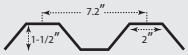
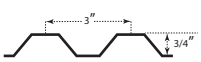
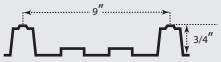
| PROFILE | CONFIGURATION DETAIL | WIDTH | LENGTHS UP TO | THICKNESS | COLORS | OZ./FT.$^2$ | CONFORMS TO |
|---|---|---|---|---|---|---|---|
| 4.2’ X 1-1/16” |   | 42’ | 24’ | 3/32” | White, Gray White, Gray, Clear, Tan, Blue White, Gray | 12 | FRP, Asbestos Cement |
| 2.67” X 7/8” |   | 40” | 24’ | 3/32” | White, Gray | 12 | FRP, Steel Aluminum |
| Astiria Box Rib Embossed |   | 40-1/4” | 24’ | 3/32” | White, Tan | 12 | Proprietary Configuration |
| 7.2” X 1-1/2” |   | 47-7/8” | 24’ | 1/8” | White, Gray, Clear | 16 | FRP, Steel Aluminum |
| AG-TUF Greca Rib |   | 26” or 38” | Specific lengths to 20.4’ | 1/32” | White | 4 | Box Rib |
| AG-TUF UV 9” Classic Rib |   | 38” | Specific lengths to 20.4’ | 1mm | White, Tan | 5 | FRP, Steel Aluminum |
| Flat UV |  | 4’ X 8’ Standard | | 1/16”, 1/8” | White, Gray, Clear, Tan, Blue | 8, 16 | |
| Type 1, Type 2 | | | | 1/8”, 3/16” 1/4”, 1/2” | White, Dark Gray | 16, 24 32, 48 | |
| Flat Astoria Embossed |  | 4’ X 8’ Standard | | 3/32” | White, Tan | 12 | |

*Non-standard colors and sizes for all profiles and product lines available upon request.*

## Product Features

- Widest range of resistance to corrosion
- Low non-combustible flame spread rating of 12
- High UV resistance: will not yellow, discolor, or turn brittle
- High impact strength
- Solid PVC, no peeling, denting or loss of structural integrity
- Cost effective
- Easy to handle and install

## Performance Features

- Phase-2 PVC Panels are non-combustible and have a Flame Spread Rating of 12
- Phase-2 PVC Panels reflect heat, which results in lower “skin” temperatures
- Phase-2 PVC Panels offer excellent resistance against water and solid, liquid or fume chemicals
- Phase-2 PVC Panels have an extremely high impact strength (6 ft. lbs./in Izod) over the entire temperature range

*The above Applications and Certifications do not pertain to AG-TUF, AG-TUF UV or Palight.*

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## Phase-2 PVC Chemical Resistance

For chemical and corrosive media not found on this list, please contact your H&F representative.

It is important to note that H&F PVC panels are generally not recommended for use with acetone, ketones, ethers and aromatic and chlorinated hydrocarbons.

The information on chemical resistance is based on our research and experience. It serves as a basis for recommendation.

| CHEMICAL | CONCENTRATION % | RESISTANCE | CHEMICAL | CONCENTRATION % | RESISTANCE |
|---|---|---|---|---|---|
| Aluminum Chloride | Saturated | R | Ferrous Sulfate | – | R |
| Aluminum Fluoride | – | R | Fluorine Gas | – | LR |
| Aluminum Hydroxide | – | R | Fluoroboric Acid | – | R |
| Aluminum Sulfate | Saturated | R | Formaldehyde | – | LR |
| Ammonia (Gas) | – | R | Hydrobromic Acid | 20 | R |
| Ammonia (Liquid) | – | N | Hydrochloric Acid | 35 | R |
| Ammonium Acetate | – | R | Hydrofluoric Acid | 48 | LR |
| Ammonium Bifluoride | – | R | Hydrofluoric Acid | 70 | LR |
| Ammonium Bisulfate | – | R | Hydrogen Peroxide | 50 | R |
| Ammonium Chloride | – | R | Hydrogen Sulfide | – | R |
| Ammonium Fluoride | 25 | LR | Iodine | – | N |
| Ammonium Hydroxide | 10 | R | Magnesium Carbonate | – | R |
| Ammonium Hydroxide | 28 | R | Magnesium Chloride | – | R |
| Ammonium Nitrate | – | R | Magnesium Hydroxide | – | R |
| Ammonium Sulfate | Saturated | R | Magnesium Sulfate | – | R |
| Ammonium Sulfide | Saturated | R | Nickel Sulfate | | R |
| Antimony Trichloride | – | R | Nitric Acid | 60 | R |
| Aqua Regia | – | N | Nitrous Oxide | – | R |
| Arsenic Acid | 80 | R | Ozone | – | R |
| Barium Chloride | – | R | Perchloric Acid | 70 | LR |
| Barium Sulfate | – | R | Phosphoric Acid | 85 | R |
| Boric Acid | – | R | Phosphorous (Yellow) | – | R |
| Bromic Acid | – | R | Phosphorous Pentoxide | – | R |
| Bromine (Liquid) | – | N | Phosphorous Trichloride | – | N |
| Bromine (Water) | – | LR | Plating Solutions | – | R |

*R – Resistant  LR – Limited Resistance  N – Not Resistant*

CONTINUED ON PAGE 5

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| CHEMICAL | CONCENTRATION % | RESISTANCE | CHEMICAL | CONCENTRATION % | RESISTANCE |
|---|---|---|---|---|---|
| Calcium Chloride | Saturated | R | Potassium Bichromate | – | R |
| Calcium Hydroxide | – | R | Potassium Bromate | – | R |
| Calcium Hyprochlorate | – | R | Potassium Bromide | Saturated | R |
| Calcium Nitrate | – | R | Potassium Chloride | – | R |
| Calcium Sulfate | – | R | Potassium Chlorate | – | R |
| Carbon Disulfide | – | N | Potassium Chromate | – | R |
| Carbon Tetrachloride | – | N | Potassium Cyanide | – | R |
| Chlorine Dioxide | 15 | R | Potassium Dichromate | – | R |
| Chlorine Gas (Dry) | – | R | Potassium Ferricyanide | – | R |
| Chlorine Gas (Wet) | – | LR | Potassium Fluoride | – | R |
| Chlorine Water | 2 | R | Potassium Hydroxide | 50 | R |
| Chromic Acid | 10 | R | Potassium Nitrate | – | R |
| Citric Acid | Saturated | R | Potassium Perborate | – | R |
| Copper Nitrate | – | R | Potassium Perchlorate | – | R |
| Copper Sulfate | – | R | Potassium Permanganate | 10 | R |
| Ferric Chloride | Saturated | R | Potassium Persulfate | – | R |
| Ferric Nitrate | – | R | Potassium Sulfate | – | R |
| Ferric Sulfate | – | R | Selenic Acid | – | R |
| Ferrous Chloride | – | R | Silicic Acid | – | R |

*R – Resistant  LR – Limited Resistance  N – Not Resistant*

## Mechanical Properties

Tensile Strength ..... 8000 psi

Flexural Modulus ..... 425000 psi

Flexural Strength ..... 13000 psi

Comprehensive Strength.... 11000 psi

Impact Strength

(Izod) 68° F ..... 6.0 ft–lb/in

Impact Strength

(Izod) 32° F ..... 0.5 ft–lb/in

Elongation ..... 65%

## Thermal Properties

Thermal Conductivity .....

.....4.2 X $10^{-4}$ cal/sec/$cm^2$/(°C/em)

Coefficient of Expansion .....

..... 6.3 X $10^{-5}$in/in/°C

K-Factor .....$10^{16}$W/m°C

Specific Heat ..... 3 cal/°C/gm

## Electrical Properties

Volume Resistivity .....

..... $10^{16}$ohm-cm (50% RH + 23°C)

Dielectric Strength.. 350-500 volts/mil

Dielectric Constant.....3.6 Khz

*In as much as H & F Manufacturing Corporation's material has many approved uses, any non-standard use should be tested by the user to determine its suitability. Proper installation techniques must be in accordance with H & F Manufacturing Corporation's procedures, and H & F will not be liable for damages due to improper installation. In accordance with our company's continual product development, you are advised to check with your H & F Manufacturing Corp. supplier to ensure that you have the most up-to-date information.*

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