



As Honeywell is a fortune 500 company known for innovation in advanced materials, we tackle the most critical challenges. Honeywell Industrial Films offers tailored solutions to meet customers' requests. Our Industrial grade films, HydroBlock® PCTFE and Polymethylpentene PMP, can be applied to various applications demanding high performance and durability.

# Honeywell HydroBlock® – Increased Protection & Maximized Resistance

Honeywell HydroBlock® Barrier Films are unique in their ability to do what other high-performance films cannot and outperform other mono-layer high-performance films. They also stand out among other high-performance films in areas such as moisture barrier, clarity and low-temperature performance. These industrial-grade poly-chloro-trifluoro-ethylene (PCTFE) films offer unsurpassed moisture barrier capabilities compared to other traditional clear barrier films used in nonfood and nonmedical applications.





 $Hydro Block ^{\texttt{@}} is one of the clearest industrial-grade polymeric moisture \ barrier films \ available in the light polymeric moisture barrier films \ available in the light polymeric moisture \ barrier films \ available in the light polyme$ market today. It is the only homopolymer that combines traits of clarity with moisture protection, chemical and weather resistance. It makes for a product that provides both the clarity and  $protection an application may need. Applying HydroBlock {\tt @toavariety} of electrolumines cent lamps$ and other Humidity-Sensitive Displays, will provide the right protection for colorful outdoor lights.

### **Moisture Protection**



In comparison to other materials such as FEP (fluorinated ethylene propylene) and PVDF (polyvinyldene fluoride), PCTFE offers superior moisture barrier properties that are often needed in industrial applications. If you're looking for a clear flexible moisture barrier application for your product, such as displays or other humidity-sensitive contents or substrates, HydroBlock® is your best moisture protection option.

### **Chemical Resistance**



 $If you're \ looking \ for \ films \ with \ the \ best \ chemical \ resistance \ to \ protect \ lab \ equipment \ or \ other$ working surfaces from harmful chemicals, HydroBlock® is among the top choices in the market.

An extensive amount of testing was conducted, including Scientific Equipment and Furniture Association (SEFA) 3-2010, to determine how tough HydroBlock® is against harsh chemicals, and the results are outstanding. The film met all SEFA requirements.

### **Weather Resistance**

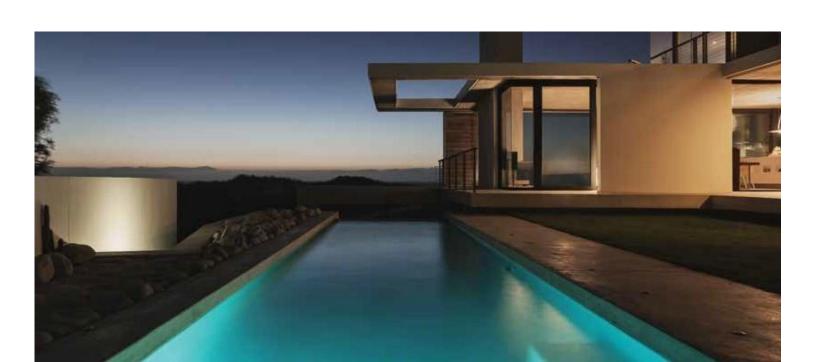


Environmental conditions can seriously impact the durability of protective films used outdoors. These conditions may have severe consequences to the durability of the films exposed outdoors, such as, clarity loss, increased haze and embrittlement. HydroBlock® allows for UV transmission without degrading the quality of the film. The moisture barrier, clarity and sub-zero temperature properties of the film can provide outstanding durability.

## **Processability**



HydroBlock® films can be thermoformed or vacuum formed to meet the needs of your application. They can also be treated to enhance bonding to most common adhesives. Honeywell's Technical Sales Service team can help you determine the right film grade of HydroBlock® for your specific application.

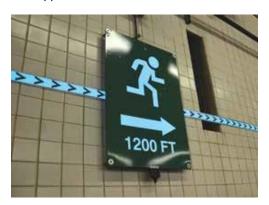




# Honeywell HydroBlock® Barrier Films Portfolio

Honeywell HydroBlock® Barrier Films are available in a wide range of thicknesses to suit different applications and levels of protection:

HydroBlock® P-Series TR film is a polychloro-tri-fluoroethylene homopolymer, a high-performance barrier film for graphics and electronics applications. It provides outstanding water vapor barrier and excellent chemical resistance with high clarity. It is commonly used where the highest levels of clarity, moisture barrier and durability in harsh situations are desired. TR films are also available coated with Pressure Sensitive Adhesives when field applications are desired.



HydroBlock® 22a is a high performance barrier film for industrial and electronics applications. It provides outstanding water vapor barrier and excellent chemical resistance with high clarity. This family of films is an excellent choice for clean room bagging & packaging, especially when low-outgassing and exposure to extreme environments are critical.



#### HydroBlock® P-Series FC films are

thermoformable for deep drawing of parts while retaining barrier, clarity and durability to harsh chemicals. It is used for military and industrial packaging applications such as, water meters covers and culture dishes.



## HydroBlock® P-Series HS film is

thermoformable for low to moderate draw. It can heat seal to itself by using proper tooling or equipment.





# Polymethylpentene PMP – Outstanding Release Properties

PMP film has different features which allow it to be used in a variety of applications. Its release and elongation capabilities, working temperature, tensile strength and gas transmission rate, along with its cost-effectiveness per unit area, set it apart from the competition in a variety of release and packaging uses.

PMP film is the right choice when the packaging application requires a breathable film or as an alternative to spray applied release agents for a composite forming application. Instead of the uncontrollable spray, PMP film will lay flat. It can also be stretched up to 300% to allow easier contouring along the composite edges and corners. This film is available in clear, blue and red shades (tinted versions for easy shop identification.)



### **Temperature**

PMP film can generally be used in composites lamination autoclave cycles that typically cure at temperatures up to  $377^{\circ}F$  ( $190^{\circ}C$ ).



# **Dimensional Stability/Working Properties**

PMP film is very suitable for autoclave cycles due to its high tensile strength which will allow it to be handled easily.



### **Gas Transmission Rate**

PMP film is a very breathable film, this makes it an excellent option for applications that require oxygen or other gas permeability.



### **Customized Formats**

Honeywell can provide PMP film at up to 80" wide in thicknesses commonly requested by the composites and packaging industries. PMP is available in clear and tinted versions.

# **Release films applications examples**

Aerospace composites

In-mold release applications

Flexible printed circuits







# Packaging applications such as

Packaging requiring oxygen permeability for medical testing

Sampling bags that require oxygen breathability





FOR MORE INFO:

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