Application: Special Considerations for Watercraft

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General Information

- This Bulletin is specifically for the application of 3M recommended films to watercraft.
- Watercraft intended for personal pleasure such as runabouts and speedboats having aluminum and/or smooth fiberglass/gel coat bodies, including boats used in fishing tournaments and off-shore racing boats, but not other boats used in connection with commercial or business enterprise. 3M specifically excludes all other recreational vehicles from this definition.
- Be sure you obtain and use the most current supporting Product and Instruction Bulletins referenced in this Bulletin.
- Make sure each applicator reads and understands this Bulletin before beginning.
- Follow each step in the order given. Do not take short cuts.

IMPORTANT NOTE!

All graphics must be applied above the static water line. Graphics applied below the static water line are not warranted or recommended.

All cut seams and edges must be edge sealed or taped.

Pre-installation Inspection Record Requirement

3M requires that a properly executed and signed *Pre-installation Inspection Record* be completed before any 3M graphics are applied. This record, which identifies any potential problem areas, is mandatory if a warranty claim is made in the future. Make a copy of the appropriate record, located at the end of this Bulletin, for every watercraft.

3M recommends that graphics manufacturers clearly define mutual obligations between the watercraft graphics operating companies and themselves and strongly suggests that graphics manufacturers seek written limitations of claims or liabilities on individual watercraft for unsound paint.

Do Not Apply Film to These Surfaces

- Textured plastic substrates. 3M does not warrant the application of film to textured plastic substrates under any circumstances. However, if you wish to try, using heat and a rivet brush to conform the film to the texture may be satisfactory for an unwarranted application.
- Substrates with poor bond between paint and boat. Substrates with multiple layers of paint may be even more susceptible to places of unsound paint. We do not warrant graphics applied to unsound paint.
- Rubber, silicone or flexible plastics. The adhesive on the recommended films does not adhere to these materials.

Films and Inks

Films for Piezo Inkjet Printing

- 3M™ Controltac™ Graphic Film IJ180-10, RG180-10
- 3M™ Controltac™ Graphic Film with Comply™ Adhesive IJ180C-10, FN180C-10, RG180C-10
- 3M™ Controltac™ Graphic Film with Comply™ v3 Adhesive IJ180Cv3-10, FN180Cv3-10, RG180Cv3-10
- 3M™ Controltac™ Wrap Film with Comply™ v3 Adhesive IJ380Cv3
- Use the inks and printers recommended in the film's Product Bulletin.

About Film Memory

Film has a memory for its original shape. Consequently, stretching the film does result in some shrinkage as it attempts to return to its original dimensions. As it shrinks, you can expect minor tenting and lifting. Heating the film helps reduce its memory, which reduces tenting and lifting around sharp changes in contour. This is discussed more later in this Bulletin.

About Applying Film to Contoured Surfaces of Watercraft

Covering complex curves and contours requires special techniques, including heating and stretching the film. The specific characteristics of a film and the inks with which it is printed, as well as whether the shape is concave or convex, determine how well the film stays bonded to the curved substrate. 3M recommends and warrants only the above listed films for watercraft graphics. These films are two-mil cast films and have less tendency to lift from contoured surfaces.

Adhesive Considerations

The recommended 3M films have pressure-activated adhesive that is slideable, positionable and repositionable until film application pressure is applied. Comply adhesive, available on some of the films, has been proven to improve speed and ease of application with virtually no trapped air bubbles.

Effect of Ink on Film's Ability to Stretch

Unprinted films have the least stretch and solvent piezo printed films have the most stretch, although UV piezo inkjet inks may also inhibit the stretchiness of the film. Also read about the effect of using application heat with UV piezo inkjet inks on page 6. Refer to the specific ink and film Product Bulletins for comments on special application techniques or limitations of use.

Health and Safety

⚠CAUTION

When handling any chemical products, read the manufacturers' container labels and the Material Safety Data Sheets (MSDS) for important health, safety and environmental information. To obtain MSDS sheets for 3M products go to 3M.com/MSDS, or by mail or in case of an emergency, call 1-800-364-3577 or 1-651-737-6501.

Please dispose of cleaning cloths and paper toweling in a responsible manner. Since regulations vary, consult applicable regulations or authorities before disposal.

When using any equipment, always follow the manufacturers' instructions for safe operation.

⚠CAUTION

Ventilation

Always provide adequate ventilation to remove emissions that may result from the use of heat. Failure to provide adequate ventilation can result in operator exposure.

⚠CAUTION

Physical Comfort

Any activity performed for a long period of time in an awkward position or with a high amount of force is potentially a risk for causing musculoskeletal strain, pain or injury. When applying graphics, follow these practices to improve comfort and avoid injury:

- Alternative your tasks during the application.
- Schedule regular breaks.
- Perform stretches or do exercises to improve circulation.
- Avoid awkward reaching.

Air Quality Regulations

State Volatile Organic Compound (VOC) regulations may prohibit the use of certain cleaning chemicals with VOC's in graphic arts coatings and printing operations. For example, the California South Coast Air Quality Management District prohibits use of certain solvent-based solutions without a permit and other California AQMD's prohibit use of certain solutions without a permit or a regulatory exemption. Check with your State environmental authorities to determine whether use of this solution may be restricted or prohibited.

Tools

These tools are recommended for a successful application. 3M does not endorse any particular brand of tools that we do not sell ourselves.

Application Tools

- 3M™ Plastic Applicator (squeegee) PA-1[1]
- 3M™ Low Friction Sleeve SA-1[1] *Use a low friction sleeve on the plastic applicator to minimize the possibility of surface scratching.*
- 3M™ Scotchmate™ Reclosable Hook and Loop Fastener - Loop portion SJ-3523[1] *apply to applicator PA-1 as an alternate to sleeve SA-1*
- 3M™ Rivet Brush RBA-1 [1] or RBA-3 [1]
- 3M™ Air Release Tool 391X [1]
- 3M™ Tape Primer 94 [1]
- 3M™ Edge Tape 8914 [1]
- 3M™ Edge Sealer 3950 [1]
- 3M™ Vehicle Channel Applicator Tool VCAT-2 [1] *See page 6 for information.*
- 3M™ IR-500 Infrared Thermometer [1]
- Snap-off cutting knives or razor blades in safety holders.
- Industrial heat gun, or the equivalent, that is capable of attaining at least 500°F (260°C)
- Cotton gloves

[1] Available from 3M Commercial Graphics Division.

Cleaning Products

This list of tools and cleaners is provided for your convenience; other acceptable cleaners may be available. 3M does not endorse any particular chemical manufacturer or supplier.

Always obtain, read and observe the information in the appropriate MSDS sheet for the chemicals you are using. See *Health and Safety* page 3.

Solvent-Free General Cleaner

- 3M™ Citrus Base Industrial Cleaner [1]

Lower Solvent Content Cleaners

- 3M™ Prep Solvent-70, 8983 [1]
- Other suitable products may be available from your local building products store.

Petroleum Distillate-based Cleaners

- 3M™ Adhesive Cleaner and Wax Remover 8984 [1]
- DuPont Prep-Sol™ Solvent Cleaner 3919S [2]
- Sherwin Williams R7K156 Sher-Will-Clean™ [2]
- Sherwin-Williams R7K158 Sher-Will-Clean™ [2]

[1] Available from 3M Commercial Graphics Division.

[2] Available from automobile supply houses handling DuPont or Sherwin Williams products.

Surface Preparation

Clean the Surface

All substrates must be considered contaminated. Clean the substrate immediately before applying the film. Dust and other contaminants can collect quickly on the substrate and prevent the film from adhering properly. Even a freshly painted substrate can collect dust before graphics can be applied.

1. Use a solution of 1 ounce of a good quality liquid dish detergent per gallon of lukewarm water to thoroughly clean the watercraft. Rinse with water.
   - Avoid soaps or preparations that contain waxes, oils or lotions; some window cleaners contain waxes!
   - Be aware that the chemicals used in some automated washing equipment may prevent good film adhesion.
   - Pay particular attention to cleaning the front and rear of the watercraft, which tends to have more oily residue.
2. Dry the surface thoroughly with clean, lint-free paper towels. A heat gun may be used to apply moderate heat and accelerate the drying.
   - Moisture prevents the adhesive from adhering correctly, can cause bubbles, and can freeze in cold environments. Any moisture trapped beneath the graphic will cause the graphic to fail prematurely.
   - Moisture on the substrate results from:
     - Inadequate drying after cleaning as well as from application solutions.
     - Condensation at low temperatures.
     - High humidity environments.
3. Wipe the surface again with a solvent-based cleaner. Refer to the list of cleaners, below. Be sure that the cleaner does not damage the watercraft's paint.

   Note: Marine wax can greatly reduce graphic adhesion. Solvent-based cleaners must be used to thoroughly remove any wax residue. Alcohol-based cleaners do *not* remove wax as effectively.

   a. Saturate a clean paper towel with a solvent.

   b. Wipe with a lint-free paper towel before the solvent evaporates from the substrate. As the paper towel becomes dirty, discard it. A dirty towel will simply move the dirt around, rather than remove it.

   c. Make sure the substrate is completely dry. If necessary, use a heat gun to dry any retained solvents.
4. Using all of the instructions that follow in this Bulletin, apply the graphic immediately. Dust and contaminants prevent the adhesive from performing as expected.

Read Before You Start an Application!

Read the following sections, then review the *Application Sequence* beginning on page 7 before your start to apply the graphics.

Application Temperature and Environment

Best Application Temperature

For the best success with the films recommended for watercraft graphics, always apply the graphics when the air and watercraft surface are both above 60°F (16°C) but no more than 90°F (32°C).

Cool Application Conditions

If the temperature is too cool, move the watercraft indoors to bring its surface temperature up to at least the minimum application temperature.

Below the recommended minimum application temperature:

- Films are not able to maintain the elevated temperatures required for stretching; films will cool too quickly.
- The initial bond of the adhesive may be insufficient to ensure the film stays adhered.
- Moisture may condense on the watercraft surface if the temperature of the watercraft surface is below the dew point.
- In very humid conditions, it may be difficult to keep the substrate dry.

Very Warm Application Conditions

If the temperature is too warm, move the watercraft indoors or into the shade and be sure the watercraft surface cools to below 90°F (32°C) before beginning the installation.

Above the recommended maximum application temperature:

- Graphics may pre-adhere thereby trapping air.
- The adhesive will be more aggressive.
- Controltac films may lose their positionability feature.
- The film may become too stretchy.

Post-Application Conditions

After application of the graphic, keep the watercraft surface temperature above 60°F (16°C) for as long as possible—at least 12 hours is ideal—before exposing the watercraft to either a cold or wet climate; this strengthens the graphic's bond to the contoured areas.

How to Reduce or Avoid Film Lifting

Identify all areas on the watercraft where the graphics may tend to lift such as in concave channels.

Use Tape Primer

1. Use 3M's tape primer 94 to promote better film adhesion where the film will be stretched.
   - In **concave channels**, apply a thin layer of primer over most of the concave area. Allow the primer to dry for five minutes.
   - When going around **convex areas**, apply a thin layer of primer at the outer edges of the curve to prevent film edge lifting. Allow the primer to dry for five minutes.

Flat Areas First

2. Apply the film to flat areas of the watercraft first.

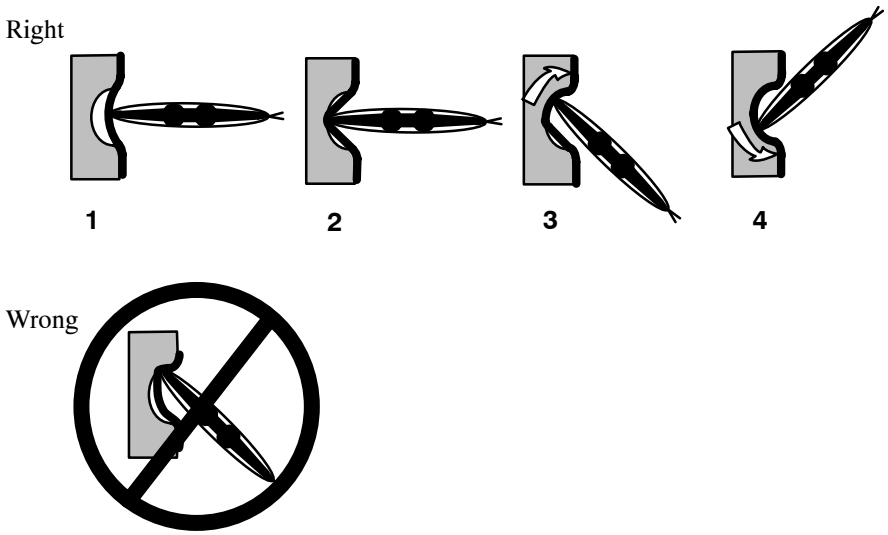
IMPORTANT NOTE!

All graphics must be applied above the static water line. Graphics applied below the static water line are not warranted or recommended.

Soften Film with Heat

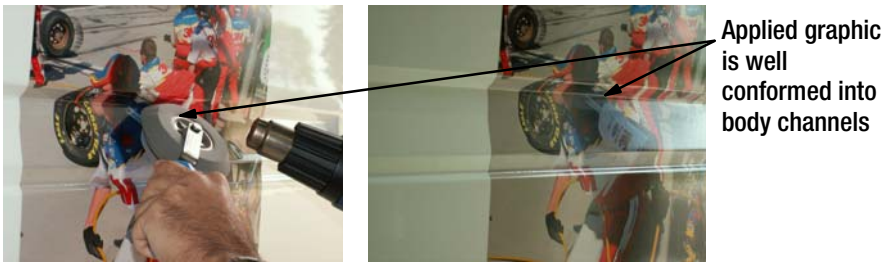
3. Use heat to soften the film when stretching it around and into complex curves.
   a. Use as much heat as possible to soften the film without burning it. Typically, heat the film to about 180°F (82°C) for convex and concave areas including ridges and channels.
   b. Film cools within seconds so gently stretch the film immediately after the heat source is removed. The film should be too hot to touch with unprotected hands; be sure to wear cotton gloves.
   c. To apply film into concave channels, use cotton gloves or use a squeegee with a low friction sleeve or Scotchmate loop material. Press the heated and softened film into the middle of the channel first so that the film is stretched evenly across the channel. See FIGURE 1.

FIGURE 1
Technique For Stretching Heated Film into Channels



   d. Another option for deep channels is to use the 3M-licensed vehicle channel applicator tool VCAT-2 to effectively work the heated film into deep channels. See FIGURE 2. Proper technique includes bridging the film over the channels, heating the film to about 180°F (82°C), and then working it into the channels. It is essential that you refer to Product and Instruction Bulletin VCAT-2 for complete details.

FIGURE 2
Technique For Stretching Heated Film into Channels



Graphics Printed with UV Piezo Inkjet Inks are Heat Sensitive!

4. UV piezo inkjet inks may crack if too much heat is used during graphic application to complex curves and deep contours as well as around rivets. When using a heat gun or other heat source during application, make sure the film surface temperature does not exceed 212°F (100°C).
   - Using additional heat in the post-application process may also cause UV piezo inkjet ink to crack.
   - For the best results *always do a test application* of a UV-piezo printed graphic to determine how much heat can be used without damaging the image.

Use Heat in Post-Application

5. After the film has been applied, apply heat to the graphic to reduce the internal stress in the vinyl film.
   a. Adjust the heat source so that the film temperature is too hot to touch—about 200°F (94°C).
   b. Move the heat source slowly across the stretched film surface.

Stretching in Deep Channels

6. Cutting the film in deep channels relieves the inherent stress of the applied film. This technique is used with films for longer term applications. Cutting is *only* recommended when edge tape 8914 or edge sealer 3950 is used to secure the edges of the film.

   In general, cutting is not necessary if the previous application techniques have been followed unless the film is expected to lift in the high stress areas.

Cutting Technique

a. Identify areas where the film is stretched by more than 125% for most films, or 150% for film IJ380Cv3, of the original film dimension *and* the radius of the channel is 1/4 inch or less. See FIGURE 3. To determine the percent of stretch, measure the travel distance through the channel and divide by the length across the channel (example: 1.8" / 1.0" = 180%). See FIGURE 4.

FIGURE 3
Checking Radius of Channel

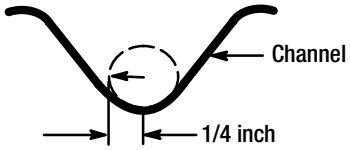
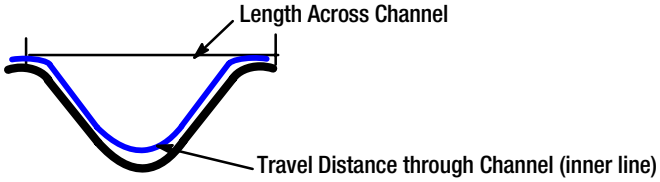
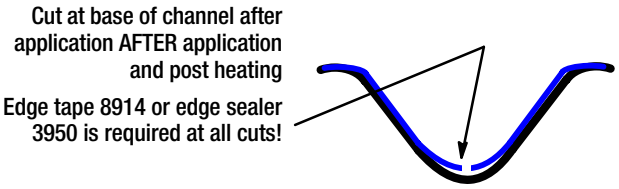


FIGURE 4
Determine Percent of Stretch



b. You must use edge tape 8914 or edge sealer 3950 if you cut the film in the channel to avoid lifting. Make the cut only after the film is fully applied and the post heating is done. See FIGURE 5.

FIGURE 5
Cut the Film in the Channel



Read the Application Sequence and Then Apply the Graphics

Application Sequence

Remove Body Hardware

1. Always remove the rub-rail and as much additional hardware from the body as possible.

Important Note!

A clean application surface is critical for a good application to watercraft. Clean the surface as instructed below immediately before applying the film, and apply the film in a clean, dust-free environment.

Clean the Substrate

2. Wash the watercraft. See Surface Preparation, page 4. Rinse thoroughly with water. Dry with a clean, lint-free towel. Clean a second time using a recommended solvent-based cleaner (see page 4). Do a final cleaning with isopropyl alcohol and wipe dry with a clean, lint-free cloth before the alcohol dries.

Apply Primer

3. Apply 3M tape primer 94 to all concave or convex surfaces and around any hardware that could not be removed. Primer 94 is recommended even with film IJ380Cv3 for watercraft.

   To apply Primer 94

   a. Shake primer 94 well before using.

   b. Apply a thin, uniform coating to the bonding surface using the minimum amount that will fully coat the surface. Use a brush or lint-free swab to apply primer 94.

   c. Allow primer 94 to dry thoroughly before applying film—about 5 minutes at room temperature. Keep the primed surface free of contaminates.

   d. Porous surfaces may require two coats of primer 94 for uniform coverage and good adhesion. Allow the first coat to dry before applying a second coat.

   e. Use isopropyl alcohol for cleaning.

4. Apply the primer 1/2 inch above the "wake ridge" line of the boat. The film will be trimmed 1/2 inch ***above*** the wake ridge line. See FIGURE 6.

FIGURE 6
Wake Ridge

Apply Masking Tape to Seams in Watercraft Panels

5. One of the finishing touches in the application will be to cut the film at all seams in the watercraft panels. Before applying film to the watercraft, apply two layers of 3M masking tape so it straddles the seam. This will help prevent cutting through the paint as you cut the seam and will be removed later.

Apply First Film Panel to Length of Watercraft

6. If the film wraps entirely around the watercraft, plan for only one seam at the middle of the back behind the motor, and one seam *just off center* of the leading edge of the front. Apply one horizontal film panel to the entire length of the watercraft, making sure there is enough film to extend at least 3 inches beyond the center front over the front and the center rear.

7. Use only one panel of film (no seams) on any other location to which you are applying graphics. Refer to FIGURE 7.

Overlaps on Center of Nose

8. On the nose of the watercraft you need to create a total film overlap of about 6 inches. To do this,

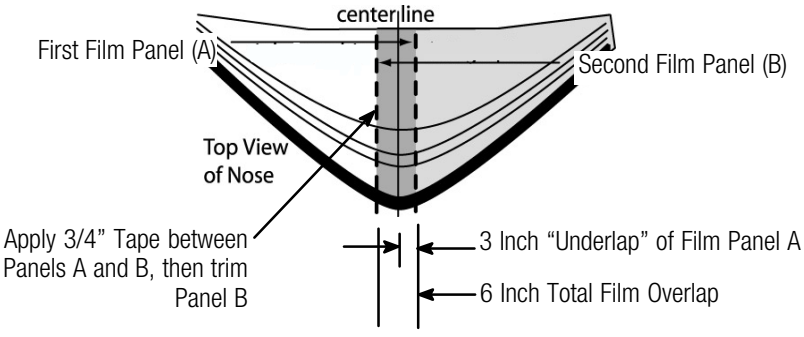
   a. Position the edge of the first film panel (A) so it extends about 3 inches past the center of the nose. Squeegee this film as instructed.

   b. Overlap the next film panel (B) so it extends about 3 inches past the center of the nose, going the other direction.

   c. To help protect film panel (A), apply two layers of 3/4 inch masking tape under the point at which you want to trim film panel B. **Cut only through the TOP layer of film panel (B)**. Remove the unwanted film.

   d. Remove the masking tape and complete the application.

FIGURE 7
Nose Overlaps



Application Techniques

General Technique

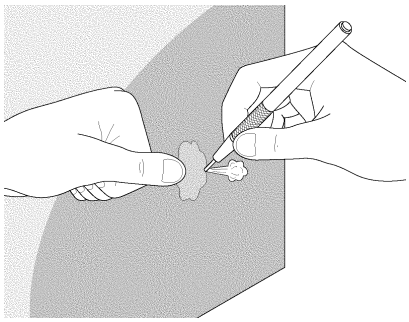
1. Use a low friction sleeve on the plastic applicator (squeegee) to minimize the possibility of surface scratching.
2. Use firm, even application pressure.
3. Stroke from the center of the film panel to the nearest edges (on watercraft, the is usually vertically). This reduces the chance of trapping air and forming air bubbles.
4. Use overlapping squeegee strokes to be sure you don't miss any areas that could trap air.
5. If air is trapped, use an air release tool to aid in removing air bubbles. A missed area leaves wrinkles and bubbles in the applied film. These are areas where premature film failures may occur.

To remove an air bubble

a. Puncture the bubble at one end with a pin or the air release tool 391X. Do NOT use a razor blade or knife.

b. Press out the entrapped air by moving your thumb toward the puncture. See FIGURE 8.

FIGURE 8
Puncturing and Rubbing Out an Air Bubble



General Technique

6. Start applying squeegee pressure at the center side of the watercraft and work towards the rear.
7. Return to the starting place at the side and work towards the front. Most contours are at the front of the watercraft so applying in this manor helps anchor the film.

Important Note!

Working with Controltac Films

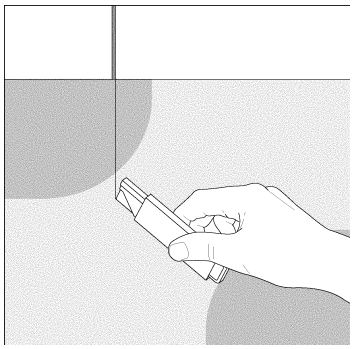
Controltac graphic films are slideable and positionable. This means that when only light finger pressure is applied to "tack" the film in place, you can slide it around to position it as needed and even reposition it if it isn't quite right. However, as soon as firm pressure is applied, these features are no longer functional. These features are also affected if you apply the film to a substrate that is too warm (more than 100°F [38°C]).

Films with Comply adhesive (for example, film 180C) have a grid of air release channels that provide a fast and easy way for air to escape which reduces the risk of air bubbles developing. However, be careful not to randomly close off these channels: following Steps 1 to 4, above, will prevent this from occurring.

Trimming and Cutting the Film

8. Trim the film at least 1/2 inch above the “wake ridge” line.
9. Seams on a watercraft flex as the craft moves. If they are not cut, the graphics will pull away from the seam, resulting in premature failure. Carefully cut the film at all seams in watercraft body panels using a sharp razor blade in a safety holder. The masking tape, which you applied before applying the film should prevent cutting the paint. Gently lift the film at the cut and remove the masking tape. Use a squeegee to firmly adhere the film to the substrate. Edge finishing will be required at these cut seams. See FIGURE 9.

FIGURE 9
Cut film at all body panel seams



10. Strive for a totally bubble-free application. Although puncturing air bubbles improves the appearance of the graphic, it can contribute to premature graphic failure if the film is torn.

Final Squeegee and Edge Finishing- REQUIRED

11. After the graphic installation is complete, re-squeegee all film edges, overlaps and cuts in channels. Then apply edge tape 8914 or edge sealer 3950 to these edges. This step is required for warranted watercraft graphics.

Important Note!

Squeegee then Seal All Edges

To ensure that the film is firmly adhered to the watercraft, all film edges, overlaps and cuts in channels—the most vulnerable parts of graphics—must be re-squeegeed and then sealed.

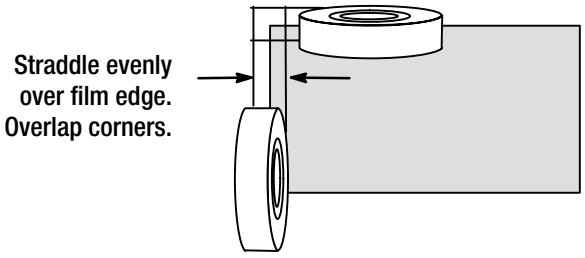
To Use Edge Tape 8914

a. This tape is 1/2 inch wide. Apply it so it straddles the edge of the film evenly (1/4 inch on the film, and 1/4 inch on the watercraft). See FIGURE 10.

b. Overlap the corners.

c. Squeegee firmly, once again.

FIGURE 10
Applying Edge Tape 8914



To Use Edge Sealer 3950

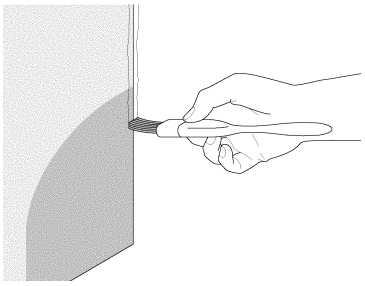
a. Apply the edge sealer when the substrate temperature is 50° to 100°F (10° to 38°C).

b. Use the felt dauber supplied or a 1/2" (1.2 cm) brush.

c. Hold the brush or flat edge of the dauber so it straddles the film and the substrate.

d. Pull the dauber or brush along the edge in a smooth, continuous motion. Make sure the entire length is covered, with no gaps. See FIGURE 11. Edge sealer dries in about 15 minutes at 60°F (15°C).

FIGURE 11
Applying Edge Sealer 3950



12. Replace the watercraft's hardware and seal all edges with silicone.

13. The final step is to heat all of the film to a minimum of 200°F (76°C). Use a heat gun

Important Note!

Heat setting, which sets the film's "memory" to the contours of the watercraft, is an essential final step for a successful, durable installation. We recommend using a 3M™ IR-500 Infrared Thermometer to check the heat. Hold it close to the film immediately after heating each section, before the temperature can drop off.

Important Information in Instruction Bulletin 5.5

Refer to Instruction Bulletin 5.5 for:

- Graphic placement
- Making film overlaps
- Registering the graphic
- Removing the adhesive's liner

Removal

Refer to the film's Product Bulletin for information on its removability, and Instruction Bulletin 6.5 for additional details on film removal.

Warranty and Limited Remedy

The information contained and techniques described herein are believed to be reliable, but 3M makes no warranties, express or implied, including but not limited to any implied warranty of merchantability or fitness for a particular purpose. 3M shall not be liable for any loss or damages, whether direct, indirect, special, incidental or consequential, in any way related to the techniques or information described herein.

3M Related Literature

Before starting any job, be sure you have the most current Product and Instruction Bulletins.

The information in 3M Product and Instruction Bulletins is subject to change. Current Bulletins are available at 3Mgraphics.com. The following applicable Bulletins provide information and processes you need to properly make the graphics described in this Bulletin. Additional Bulletins may be needed as indicated in the 3M Related Literature section of other 3M components you use.

Bulletin types: PB = Product Bulletin; PB-IB = Product & Instruction Bulletin; IB = Instruction Bulletin

Subject	Type	Bulletin No.
3M™ Controltac™ Graphic Film IJ180-10 3M™ Controltac™ Graphic Film with Comply™ Adhesive IJ180C 3M™ Controltac™ Graphic Film with Comply™ v3 Adhesive IJ180Cv3 plus FN and RG versions	PB	PIJ180/180C
3M™ Controltac™ Wrap Film with Comply™ v3 Adhesive IJ380Cv3	PB	PIJ380Cv3
Application, substrate selection, preparation and substrate-specific application techniques	IB	5.1
Application, special applications and vehicles	IB	5.4
Application, general procedures for indoor and outdoor dry applications	IB	5.5
Storage, handling, maintenance, removal	IB	6.5
Warranties 3M Graphics Center Warranty Brochure	go to www.3Mgraphics.com, Warranties	

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Bulletin Change Summary

Film IJ180Cv2 is no longer available. On the inspection form, the web address for claims is now www.3Mgraphics.com/qualitydirect.

You are required to complete the 3M Watercraft Pre-Installation Inspection Record on the following pages before applying 3M film.

Commercial Graphics Division
3M Center, Building 220-12E-04
PO Box 33220
St. Paul, MN 55144-3220 USA
General Info. 1-800-374-6772
Technical Info. 1-800-328-3908
Fax 1-651-736-4233

www.3Mgraphics.com

3M Canada
P.O. Box 5757
London, Ontario
Canada N6A 4T1
1-800-265-1840
Fax 519-452-6245

3M México, S.A. de C.V
Av. Santa Fe No. 55
Col. Santa Fe, Del. Alvaro Obregón
México, D.F. 01210
52-55-52-70-04-00
Fax 52-55-52-70-22-77

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P.O. Box 100
Carolina, PR 00986-0100
787-620-3000
Fax 787-750-3035

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3M Watercraft Graphics Pre-installation Inspection Record *Page 1 of 2*

Note: Complete both pages of this Pre-installation Inspection Record, using a separate record for each vehicle, before each new graphic installation and between subsequent graphic installations on the same vehicle.

Note: Watercraft is intended for personal pleasure such as runabouts and speedboats having aluminum and/or smooth fiberglass/gel coat bodies, including boats used in fishing tournaments and off-shore racing boats.

Installer Requirements

1. **Carefully and thoroughly examine each watercraft and record all potential problem areas** prior to installing the film. We recommend washing the watercraft so that potential problem areas are easily seen.
2. **Ensure that the paint is sound** so that the film will have good adhesion to the paint. For the purpose of this program, “sound paint" is defined as paint that is free of defects (see the “Defects" bullet below). Note, however, there is no paint refurbishment warranty offered.

   Circle all areas on the following diagram where your inspection shows that the paint may be unsound, the graphic may to be able to adhere well, or graphic removal may damage the watercraft paint. This includes:

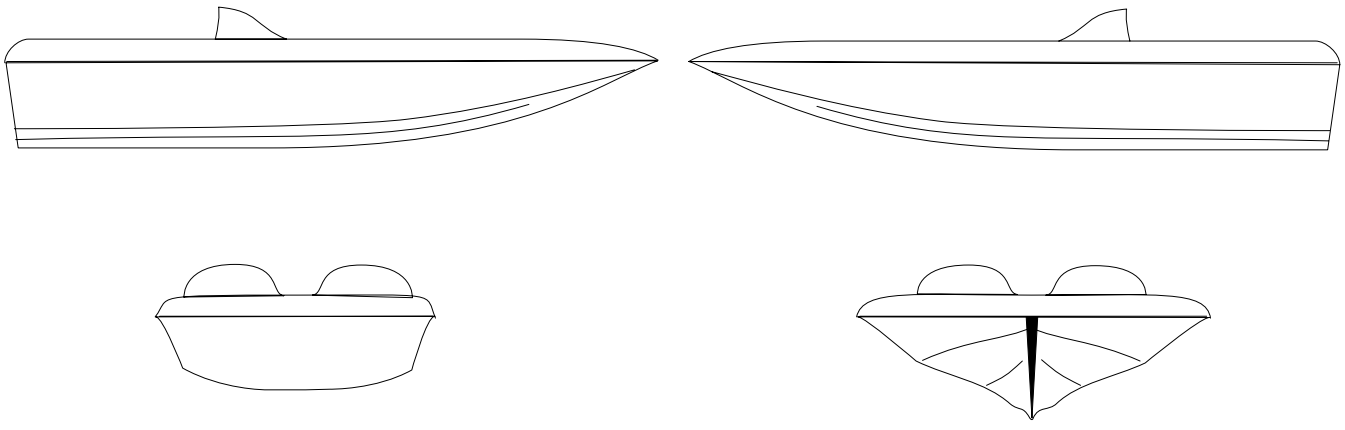
   - Defects: paint that is not well bonded over the entire application surface, including multiple layers of paint being well bonded to one another; loose paint; dents and surface damage; rough surface; fillers used for damage, rust or blistered paint.
   - Areas where water can collect, which are more likely to rust, resulting in paint adhesion problems.

Note: Primer, which does not outgas, may be applied to bad paint spots on the watercraft to prepare it for film application. However, the use of primer on bad paint spots does not guarantee success or a warranty; this must still be considered a problem area and must be documented on the Pre-installation Inspection Record.

3. **Photograph all areas that you circled** on the diagram as exhibiting unsound paint.
4. **Explain proper graphic maintenance** to the Watercraft Owner/Operator. See Instruction Bulletin 6.5.
5. **Complete the Pre-installation Inspection Record** (see the next page of this document).
6. **Make and distribute copies** to all signing parties.
7. **Maintain a file** with the signed form and photographs.

Warranty Claims and Exceptions

1. Failure to obtain a properly executed and signed **Pre-installation Inspection Record** (see the next page of this document) prior to graphic installation voids all expressed or implied 3M product warranties.
2. If the pre-inspection shows the paint is not free of defects, the owner of the watercraft waves all expressed or implied 3M product warranties.
3. 3M makes no warranty (expressed or implied) for paint or existing graphic damage that occurs during the removal of a graphic. See the Graphic Market Center Warranty brochure for complete details at www.3Mgraphics.com, Warranties.
4. To make a claim, contact 3M Commercial Graphics Division Quality Direct at 1-800-511-3705 or go to www.3Mgraphics.com/qualitydirect. Be prepared to send in:
   - A piece of the 3M film exhibiting the defect.
   - A properly executed and signed 3M Watercraft Pre-installation Inspection Record, including any photographs you took before the film was applied for the areas now exhibiting a problem.



Circle all areas where the paint may be unsound.

3M Watercraft Pre-installation Inspection Record

COMPLETE THIS FORM, PROVIDE A COPY FOR EACH SIGNER AND RETAIN WITH PHOTOGRAPHS IN CASE OF A CLAIM.

Please print except in signature boxes.

WATERCRAFT OWNER/OPERATOR
COMPANY NAME
CONTACT NAME
STREET ADDRESS
CITY / STATE / ZIP
AREA CODE / PHONE NUMBER
GRAPHICS PRINTER
COMPANY NAME
CONTACT NAME
STREET ADDRESS
CITY / STATE / ZIP
AREA CODE / PHONE NUMBER
GRAPHICS INSTALLER
COMPANY NAME
CONTACT NAME
STREET ADDRESS
CITY / STATE / ZIP
AREA CODE / PHONE NUMBER

WATERCRAFT INFORMATION	
LICENSE NUMBER	STATE
WATERCRAFT YEAR, MAKE AND MODEL	
VIN NUMBER	
WATERCRAFT OWNER/OPERATOR	
PRE-INSPECTION: (see the previous page of this bulletin for inspection requirements) ❑ PASSED (DATE: _____ BY: _____) ❑ FAILED (Owner waives all product warranties if graphics are applied)	
PHOTOGRAPHS OF POTENTIAL PROBLEM AREAS: ❑ YES (DATE: _____ BY: _____) ❑ NO	
GRAPHIC CONSTRUCTION AND INSTALLATION INFORMATION	
INSTALLATION DATE	
GRAPHIC COVERAGE ❑ FULL ❑ PARTIAL	
SUBSTRATE CLEANED AND PREPARED ACCORDING TO 3M RECOMMENDATIONS: ❑ YES (DATE: _____ BY: _____)	
FILM USED	
SIGNATURES OF ALL PARTIES	
INSTALLER / DATE	
AGENCY REPRESENTATIVE / DATE	
WATERCRAFT OWNER/OPERATOR / DATE	

Warranty and Limited Remedy

The information contained and techniques described herein are believed to be reliable, but 3M makes no warranties, express or implied, including but not limited to any implied warranty of merchantability or fitness for a particular purpose. 3M shall not be liable for any loss or damages, whether direct, indirect, special, incidental or consequential, in any way related to the techniques or information described herein.

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