

Pre-treating a T-shirt

Follow the instructions in these sections to prepare your T-shirt for printing.

[Pre-treatment Solution Safety Precautions](#)

[Preparing the Pre-treatment Solution](#)

[Diluting the Pre-treatment Solution](#)

[Pre-treatment Application Guidelines](#)

[Pre-treating a T-shirt with a Roller](#)

[Pre-treating a T-shirt with a Sprayer](#)

[Fixing the Pre-treatment Solution \(Heat Press\)](#)

Parent topic: [Basic Printing](#)

Pre-treatment Solution Safety Precautions

If you are printing with White ink (White Edition), pre-treatment solution must be applied to the T-shirt. Observe these precautions when applying the pre-treatment solution:

- Always wear a mask, gloves, and protective eye wear when applying the pre-treatment solution and make sure the area is well-ventilated. If pre-treatment solution comes in contact with your skin or enters your eyes or mouth, immediately take the following actions:
 - If you get pre-treatment solution on your skin, immediately wash it off using soap and water. Consult a physician if your skin is irritated or discolored.
 - If pre-treatment solution gets in your eyes, rinse immediately with water. Failure to observe this precaution could result in bloodshot eyes or mild inflammation. If problems persist, consult a physician.
 - If pre-treatment solution gets in your mouth, consult a physician immediately. If swallowed, do not induce vomiting and consult a physician immediately. If vomiting is induced, solution may get caught in the trachea which can be dangerous.
- Store the pre-treatment solution out of the reach of children.
- After working with the pre-treatment solution, wash your hands thoroughly.
- Prepare only the amount of pre-treatment solution required for the current print job, or it may harden.
- Do not store the pre-treatment solution in high or freezing temperatures.
- Store the pre-treatment solution at room temperature and away from direct sunlight.

- If pre-treatment solution gets stuck to the print head, it could cause the printer to malfunction and print quality to decline. Make sure that pre-treatment solution does not accidentally stick to the inside of the printer during maintenance and other operations.
- Do not put waste pre-treatment solution in the waste ink bottle as it will solidify if mixed with waste ink.

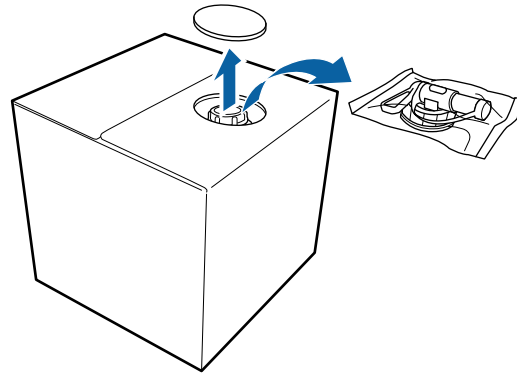
Caution: Pre-treatment solution is classified as industrial waste and must be disposed of by an industrial waste disposal company according to local laws and regulations. When handing over the pre-treatment solution to an industrial waste disposal company, make sure you include these safety precautions.

Parent topic: [Pre-treating a T-shirt](#)

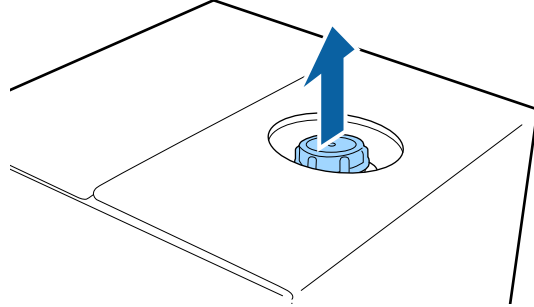
Preparing the Pre-treatment Solution

Prepare the pre-treatment solution for application to the T-shirts.

1. To attach the tap, cut the cardboard along the perforations and remove the tap from inside the cardboard box.

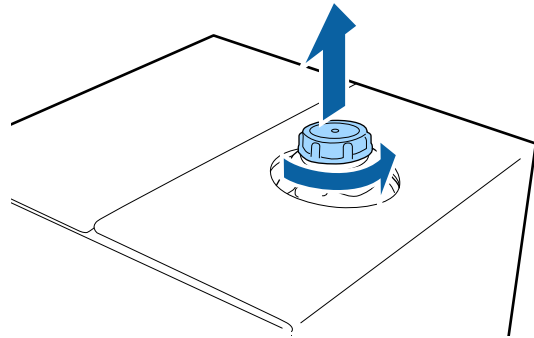


2. Pull the cap section out of the hole in the cardboard.

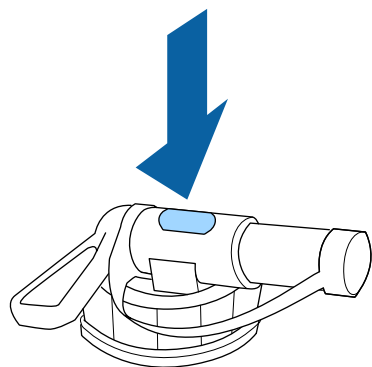


Note: Make sure you pull the cap section out of the hole in the cardboard. If the cap is opened without being pulled out, the pre-treatment solution may spill out.

3. Remove the cap.

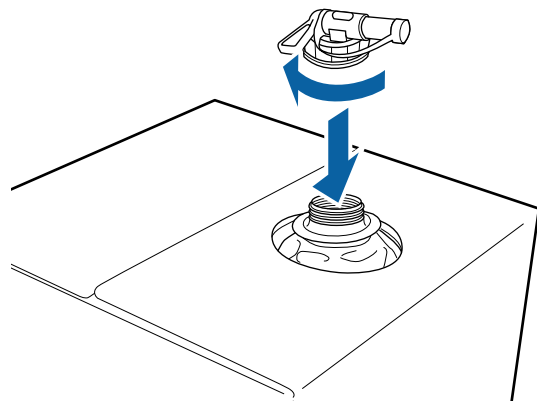


4. Remove the tap from the bag and turn the tap's handle section until the hole is visible as shown.

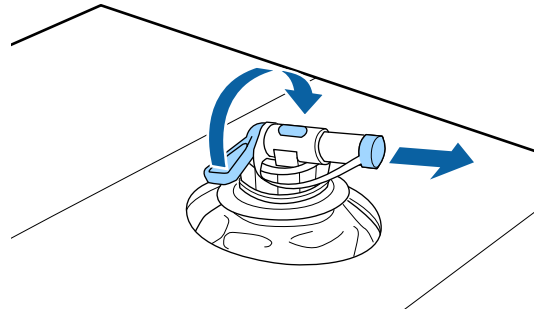


Note: If you cannot see the hole or if the tap is damaged, contact Epson.

5. Attach the tap.



6. Remove the cap from the tap and turn the lever until the hole is facing down.



7. To pour the solution, tip the cardboard or the container and pour the pre-treatment solution into the desired container.
8. When you have finished pouring the solution, put the cap back on the tap.
9. Store the cardboard box with the tap side facing up.

Parent topic: [Pre-treating a T-shirt](#)

Diluting the Pre-treatment Solution

Before applying the pre-treatment solution to a T-shirt, make sure you dilute it correctly with distilled or purified water as described here.

Caution: If you do not dilute the pre-treatment solution, it leaves noticeable traces on the T-shirt or the printed surface cracks after washing. If the pre-treatment solution is too weak, White ink does not adhere to the fabric and the desired whiteness cannot be achieved.

When fixing ink with a heat press

Garment color	Dilution ratio
Black/dark colored garments	Start with 1:2 (pre-treatment solution:water) and test increasing water up to 1:6)
Pastels/light colored garments	Start with 1:1 (pre-treatment solution:water) and test increasing water up to 1:3)

Note: Use pre-treatment solution that is diluted more than 2 times if uneven colors occur after fixing the ink (such as layering color ink over White ink), or when pre-treatment solution leaves a trace.

When fixing ink with a heat tunnel

Garment color	Dilution ratio
All colors	Start with 1:2 (pre-treatment solution:water) and test increasing water up to 1:3)

Parent topic: [Pre-treating a T-shirt](#)

Related references

[Fixing the Pre-treatment Solution \(Heat Press\)](#)

Pre-treatment Application Guidelines

Before applying pre-treatment solution to the entire T-shirt, make sure to test it on a non-visible area first.

Apply the diluted pre-treatment solution to the T-shirt with a roller or use the spray method according to these guidelines.

Fixing method	Amount of diluted solution to apply
Heat press	Apply 0.0054 to 0.0073 ounce per square inch (0.16 to 0.21 g per square inch)
Heat tunnel	Apply 0.0054 ounce per square inch (0.16 g per square inch)

Note: If fixing the ink with a heat tunnel, you need to use a heat press to fix the pre-treatment solution.

Parent topic: [Pre-treating a T-shirt](#)

Related references

[Fixing the Pre-treatment Solution \(Heat Press\)](#)

Related tasks

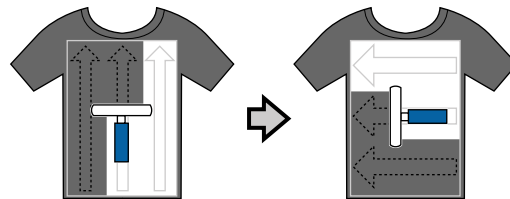
[Pre-treating a T-shirt with a Roller](#)

[Pre-treating a T-shirt with a Sprayer](#)

Pre-treating a T-shirt with a Roller

To prevent colored T-shirt fibers on the roller from sticking to other T-shirts, use a different roller for each color.

1. Fill the tray with diluted pre-treatment solution and dip the roller in it.
2. Spread out the T-shirt on a flat surface.
3. Squeeze the pre-treatment solution out of the roller by pressing it against the edge of the tray.
4. Apply the solution evenly in both directions as shown to an area larger than the target print area. It's important to finish in the shoulder-to-shoulder direction; this aligns the fabric fibers to the direction of the print head movement.



5. Fix the pre-treatment solution with a heat press, if necessary.

Note: The T-shirt fibers must be pressed flat to produce even whiteness. Even if you use a heat tunnel to fix the ink, use a heat press to fix the pre-treatment solution before printing.

Parent topic: [Pre-treating a T-shirt](#)

Related references

[Fixing the Pre-treatment Solution \(Heat Press\)](#)

Related tasks

[Diluting the Pre-treatment Solution](#)

Pre-treating a T-shirt with a Sprayer

Caution: Applying the pre-treatment solution with a sprayer creates a mist. Wear a mask, protective eye-wear, and gloves, and make sure your work area is well-ventilated.

1. Pour the diluted pre-treatment solution into the sprayer.

2. Place the T-shirt on a flat surface.
3. Spray the pre-treatment solution evenly over an area larger than the target print area.



Note: Run a roller over the area after spraying for an even application of the pre-treatment solution.

4. Fix the pre-treatment solution with a heat press under high pressure.

Note: The T-shirt fibers must be pressed flat to produce even whiteness. If you use a heat tunnel to dry the pre-treatment solution, use a heat press for a short period of time at high pressure to flatten the T-shirt fibers before printing.

Parent topic: [Pre-treating a T-shirt](#)

Related references

[Fixing the Pre-treatment Solution \(Heat Press\)](#)

Related tasks

[Diluting the Pre-treatment Solution](#)

Fixing the Pre-treatment Solution (Heat Press)

If you are using a heat tunnel to fix the ink, you must use a heat press before printing to remove creases from the T-shirt and to fix the pre-treatment solution. Always place a heat-resistant release sheet, such as silicon paper, between the T-shirt and the heat press.

Note: Do not wet the T-shirt or leave it in a humid location for a long time after fixing the pre-treatment solution, or White ink may absorb into the wet sections and cause unevenness in color. If the T-shirt is left for an extended period of time in a humid location, press it for 5 to 10 seconds just before printing.

The fixing conditions vary depending on the amount of pre-treatment solution used. The following guidelines are approximate.

Note: If the pre-treatment solution is not completely dry after the suggested amount of time, extend the duration while carefully checking if the pre-treatment solution is dry. If traces of the pre-treatment solution are still visible, try using water to wash them off.

Application area size	Temperature	Time	Pressure
Letter/A4 and smaller	338 °F (170 °C)	45 seconds	6 Psi
Larger than letter/A4		45–90 seconds	

Note: Optimum conditions may vary depending on the type of heat press used; make sure to test in advance to determine the correct conditions for your heat press.