

Product Description

The ACF (Advanced Copolymer Film) is a premium elastic separation film engineered specifically for bottom-up MSLA 3D printers. Composed of a unique blend of FEP (Fluorinated Ethylene Propylene) and PTFE (Polytetrafluoroethylene) resins, this innovative film offers **exceptional release properties**. It is softer and **more flexible than traditional films**, necessitating careful handling during use. ACF stands out with its significantly reduced peeling force and superior optical clarity, enhancing printing success rates, ensuring **less failures with larger models or objects placed flat on the build plate**.

Ideal for larger format printers where easy release and low peeling force is paramount, ACF excels in producing high-quality, detailed models across a variety of industries, including **engineering, dental, and manufacturing**. Whether you are creating intricate designs or large-scale prototypes, ACF provides the reliability and quality assurance needed to achieve superior printing results.

Product Features

Reduced Peeling Force | The ACF film’s flexible resilience facilitates smoother and easier separation from the cured resin layer. This key feature enhances the overall printing process by significantly improving print success rates, speeding up the production cycle, and greatly simplifying the post-processing steps. The reduced force required for peeling means less stress on the models and lower risk of deformation or damage.

Enhanced Elasticity | The ACF film’s unique composition enhances its flexibility, allowing it to conform more closely to the printer’s vat. This increased elasticity helps maintain a uniform layer thickness during the printing process, which is critical for achieving high-resolution prints and intricate details.

Superior Stress Distribution | With its innovative blend of FEP and PTFE resins, ACF film excels in distributing mechanical stress during the peeling process. This capability reduces the likelihood of film failure and minimises strain on both the film and the 3D model, thereby supporting consistent print quality and reducing the risk of defects.

Superior Print Quality | Due to its exceptional peeling performance, the ACF film minimises deformation during the peeling process, allowing for the production of detailed, high-quality prints with excellent dimensional accuracy. This feature is crucial for professionals who demand the highest quality in their finished products, making it ideal for intricate designs and complex geometries.

Optimised for Large-Format Printers | The ACF film is ideally suited for use in demanding SLA and LCD 3D printing applications, particularly in large-format printers. Its properties are tailored to meet the unique challenges posed by larger print beds, providing consistent and reliable results across a wide range of printing conditions and resin types.

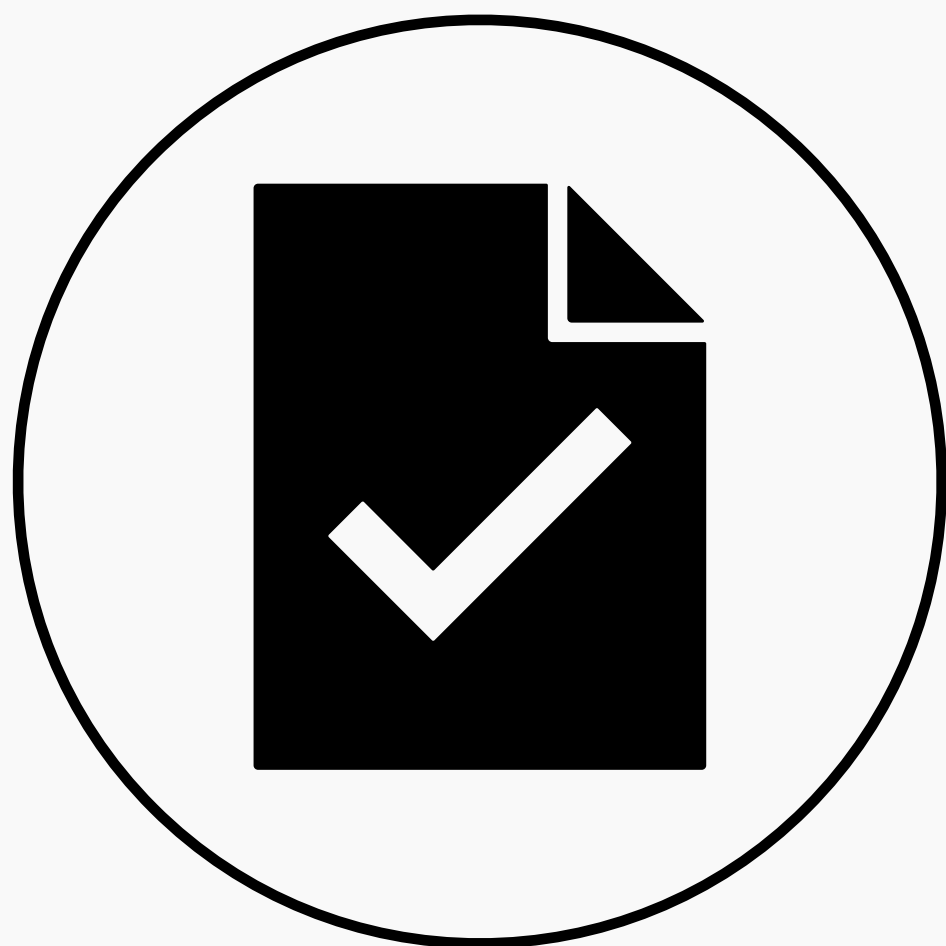
Installation Instructions

- 1. **Prepare a Suitable Work Area:** It’s important to prepare a clean, non-scratch surface to work on. This can be a lint-free cloth that will prevent scratches and damage to the ACF film. Ensure the area is free of dust and any sharp objects that could compromise the integrity of the film.
- 2. **Remove the ACF Film from Packaging:** Open the packaging and carefully remove the sheet of ACF film. Handle the film by the edges to avoid direct contact with the surface, which could leave fingerprints or transfer oils from your skin.
- 3. **Peel Protective Layers:** Each side of the ACF film is protected by a thin layer to prevent damage during storage and transport. Start at one corner and gently peel away the protective layer from one side. Repeat the process for the other side, making sure to touch the film as little as possible.
- 4. **Installation of the Film:** Align the film with the resin vat of your printer. Follow the manufacturer’s instructions closely for installation. The film should be installed without any wrinkles or bubbles to ensure optimal performance.

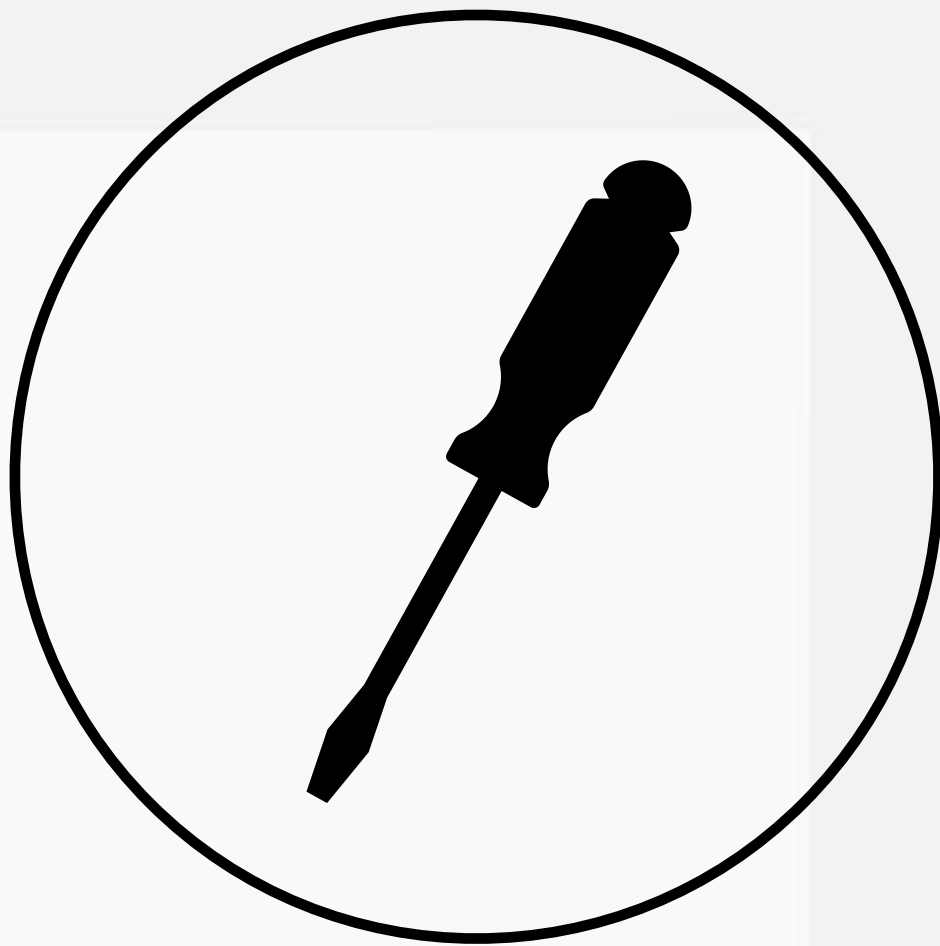
Important: Ensure that the glossy surface of the film is facing into the resin vat, while the matte surface should face the LCD screen.

- 5. **Check Film Tension:** Once the film is installed, it is crucial to check that it is stretched taut across the vat. Gently tap the surface of the film with a finger. It should make a drum-like sound if properly tightened. Proper tension is key to achieving high-quality prints, as it affects the release characteristics of the film during the printing process.
- 6. **Cleaning the Film:** After installation, inspect the film for any smudges or fingerprints. Use a lint-free cloth to gently clean the surface. You can use a cleaning solution like SprayAway™. Spray a small amount directly on the film and wipe carefully until the surface is clear and streak-free.

ACF Quick Start Guide



1. Remove Protective Layers



2. Install the Film



3. Check the Tension



4. Cut & Clean Film

Technical Specifications

Property	Value
Film Thickness	0.3 mm
Density	2.15–2.17 g/cm³
Tensile Strength	>10 MPa
Temperature Resistance	200°C
Elongation	>400%
Moisture Absorption	<0.01%
Water Contact Angle	114°
Solar Transmission	≥92%
Refractive Index	1.34
Folding Endurance (MIT)	100,000 cycl

Head to Head | ACF vs. FEP vs. PFA (nFEP) Film

ACF	FEP	PFA (nFEP)
✓ Enhanced Elasticity	✓ Good Optical Clarity	✓ High-Temperature Resistance
✓ Reduced Peeling Force	✓ Lower Cost	✓ Strong Mechanical Properties
✓ Superior Optical Clarity	✓ Durable	✓ Good Chemical Resistance
✓ Highly Flexible	✓ Increased longevity	✓ High Purity
✓ Large Format Printing	✓ Small Format Printing	✓ Good Wear Resistance
✗ Higher Cost	✗ Less Flexible	✓ Release Superior to FEP
✗ Careful Handling	✗ Increased Peeling Force	✗ Release Inferior to ACF
✗ Can Puncture Easily	✗ Release Inferior to PFA & ACF	✗ Higher Cost

Disclaimer | The values provided herein are intended for specification purposes only and represent averages derived from standard PSTC and ASTM testing methods. Monocure3D does not guarantee performance in specific applications. Given that product performance can vary, it is essential for each user to conduct their own testing to ascertain the suitability of the product for specific applications. The purchaser assumes all risks and liabilities associated with the use of this product. For optimal material performance, store at 20°C (68°F) with 50% relative humidity. Monocure3D is committed to delivering superior products; please [contact our support team](#) for expert application assistance.