

Product Description: Zirlux® Model Print Resin is a liquid photopolymer resin designed for additive manufacturing in Vat Polymerization DLP printers utilizing wavelengths between 385nm–405nm. Characterized by its fast print speed, flawless surface detail, and integrated thermoforming release agent, Zirlux® Model Print Resin is a material designed for 3D printing of dental and orthodontic models.

The user should review all applicable product labeling, including Instructions for Use, user manuals, and associated labeling for any component(s) used in conjunction with Zirlux® Model Print Resin. Strict adherence to all labeling is critical in assuring a safe and effective printed appliance.

Warnings & Precautions

1. Review the product Safety Data Sheet (SDS) before use.
2. To ensure a safe and effective final device, Zirlux® recommends using dedicated accessories for Zirlux® Model Print Resin, including resin tank, build platform, and washing station.
3. Clean the printer build plate and vat tray before using a different batch of Zirlux® Model Print Resin. DO NOT mix different batches of the same product.
4. Do not use any devices or components that are not validated in collaboration with Zirlux®.
5. As per the SDS, wear proper personal protective equipment when handling resins and uncured printed parts.
6. When pouring the resin, be careful not to splash.
7. Store in a cool, dry place 15°C-30°C (59°F-86°F) and away from light. Cap the bottle when not in use.
8. Zirlux® recommends against reclaiming the resin material without filtering. In the unlikely event of print failure, filter the liquid resin through a mesh screen with pore sizing <200 microns. It is a good practice to filter the resin vat periodically to prevent print failures.
9. Prior to use, invert and shake bottle well for 5 minutes. Color deviations and print failures may occur if the resin is insufficiently mixed.
10. Light sensitive resin. Shield liquid resin from exposure to ambient light. Do not leave resin in vat tray for prolonged periods.
11. Allow the resin to reach ambient temperature (20-25°C/68-77°F) before printing.
12. Limit the total wash time with Isopropanol (IPA) to no more than 5 minutes to prevent adverse effects on final physical properties.
13. Contains acrylate monomers and oligomers, which, although rare, may cause an allergic reaction in individuals sensitive to acrylic containing products.

Compatible Equipment

To ensure the printed model meets our standards for high quality, Zirlux® collaborates with printer manufacturers to provide validated printer and post-cure settings. Visit www.zirlux.com/printresins for a list of completed and in-process validations.

Processing Printed Parts

1. Pour the liquid material in the reservoir of the printer. Follow the printers' instructions for use.
2. Print the part according to your printers' Instructions for use.

Zirlux® recommends two nesting orientations for dental models (1) Flat, with the occlusal plane parallel to the build plate or (2) Vertical, with the occlusal plane perpendicular to the build plate.

Directions for cleaning/ post-cure of printed part(s)

Zirlux® recommends removing support structures before Stage 1 cleaning.

1. **Stage 1 Cleaning:** Place printed part(s) in an Isopropanol (IPA) bath with at least 97% purity. Use this bath as the first wash of any part coming from the printer. Remove excess liquid resin from the printed part(s). Run fingers over the surface, using swishing or vibrating motions with the part submerged in the IPA bath.
2. **Stage 2 Cleaning:** Transfer the part(s) into a stage 2 IPA bath. To achieve optimal final print quality, use fresh IPA with a lower concentration of contaminants. A soft bristle brush or cotton swab dipped in IPA can help remove excess resin.
3. **Dry Part(s):** Use compressed air to dry part(s), looking for glossy spots of residual liquid resin. If residual resin remains, repeat steps 1-3 as needed.
4. **Post Cure:** Zirlux® Model Print Resin requires post-cure to reach optimal physical properties. After cleaning, place the part(s) in a validated post-cure box, ensuring the part is placed flat to prevent warping. Cure time will depend on the wavelength and intensity of light used. One validated method of post-curing is:

Otflash G171: Set the post-cure box to 2000 flashes per side without nitrogen

See www.zirlux.com/printresins for validated post-cure box settings.

Allow part to cool completely before removing from the cure-box to prevent surface defects or warping.

Disposal Considerations: Zirlux® Model Print Resin is not an environmental hazard in its final, fully cured state. Dispose of unused and non-recyclable liquid resin materials in accordance with federal, state, and local regulations.



Model Print Resin

[REF] 921-0034 Ivory

[REF] 921-0035 Light Grey

In case of Emergency:
Chemtrec 1-800-424-9300

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Consult instructions for use
Consulte les instructions de uso
Voir les instructions d'utilisation

Keep away from sunlight
Protéger de la luz del sol
Protéger du rayonnement solaire

Keep dry
Almacenar en un lugar seco
Stocker dans un endroit sec

Product Description: A light-curing 3D printing resin designed to simulate gingival tissue, used with Zirlux® Model Print Resin to plan dental restorations.

For use in DLP 3D printers utilizing wavelengths between 385–405 nm.

Warnings & Precautions:

1. For professional use only.
2. Not for intra-oral use. For bench/lab work only.
3. Review the product Safety Data Sheet (SDS) prior to use.
4. Wear proper personal protective equipment when handling resins and uncured printed parts as directed on SDS.
5. When pouring the resin, be careful not to splash.
6. Store in a cool, dry place and away from light.

Contains acrylated monomers and oligomers which, although rare, may cause an allergic reaction in individuals sensitive to products containing acrylics.

Processing Tips:

1. Ensure that resin is tempered to ambient temperature (20–25 °C/68–77 °F) prior to printing.
2. In order to achieve consistency of the resin and to prevent bubbles, agitate the bottle 1 hour prior to use. If bubbles are present, remove with a clean instrument/spatula.
3. Only use Zirlux® product-specific pre-determined settings for your DLP 3D printer. Zirlux® Gingiva Mask Print Resin should be used with a 385–405 nm UV light source. Printers using alternative light sources require validation by manufacturer's technical team for optimal settings. Unless specified, always print using the settings provided at www.zirlux.com/printresins.
4. Resin coated parts should be cleaned with Isopropanol (at least 97%) within approximately 8 hours from the completion of the print. Do not allow the parts to sit in Isopropanol for longer than 5 minutes as the properties may begin to deteriorate.
5. Zirlux® discourages the use of denatured alcohol or ethanol for cleaning as it may diminish or degrade the quality of the finished parts.

Directions for cleaning and post-cure treatment of printed part(s):

1. Remove part from printer and build platform.
2. Remove support structures from the part if applicable (optional: remove supports before or after post-cure).
3. Place in Stage 1 Isopropanol (IPA) bath. This bath is used for the first wash of any part coming from the printer.
4. Remove excess liquid resin from the printed part. This can be done by running fingers over the surface, swishing or vibrating with the part submerged in the IPA bath.
5. Transfer the part(s) into a Stage 2 IPA bath. In order to achieve optimal final print quality, use fresh IPA with lower concentration of contaminants. Using a soft scrub brush or toothbrush can help remove excess resin.
6. Use compressed air to dry part, looking for residual liquid resin, which will be visible as it remains glossy. If residual resin remains, repeat steps 5 & 6 as needed.
7. Place the part in a post processing cure box, being sure to place the part flat to prevent warping. Refer to www.zirlux.com/printresins to locate validated cure box settings. Resins are compatible in cure boxes with UV wavelengths of 250–390 nm.
8. Allow part to cool completely before removing from the cure box to prevent surface defects or warping.
9. Perform final processing (i.e. polishing).
10. Part is ready for testing/use.

Disposal Considerations: Zirlux® Gingiva Mask Print Resin is not considered an environmental hazard in its final, fully cured state. Dispose of unused and non-recyclable liquid resin materials in accordance with federal, state and local regulations.



Gingiva Mask Print Resin

REF 921-0032

In case of Emergency:
Chemtrec 1-800-424-9300

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Indications for Use: Zirlux® Nightguard & Splint Print Resin - Flexible is indicated for the fabrication of orthodontic and dental appliances such as mouthguards, nightguards, splints and repositioners.

Product Description: Zirlux® Nightguard & Splint Print Resin - Flexible is a light-curing resin for the 3D printing of flexible biocompatible dental devices for use in DLP 3D printers utilizing wavelengths between 385nm –405nm. This system integrates multiple components of the digital dentistry workflow: scan files from intra-oral scanners, CAD/ CAM software, resins, printers, post cure devices and associated tools and accessories. For any components that are used in conjunction with the Zirlux® Nightguard & Splint Print Resin - Flexible resin, the user should review all applicable product labeling including Instructions for Use pamphlets, user manuals and other associated labeling. Strict adherence to all labeling is critical in assuring a safe and effective printed appliance.

Contraindications: Contains acrylate monomers and oligomers which, although rare, may cause an allergic reaction in individuals sensitive to acrylic containing products.

CAUTION: Federal law restricts this device to sale by, or on the order of a dental professional.

Warnings & Precautions:

1. Follow all recommended validated settings for safe and effective print results.
2. Do not use any devices or components that are not validated or deemed acceptable by Zirlux®. See www.zirlux.com/printresins for additional information on validated workflow options.
3. Review the product Safety Data Sheet (SDS) prior to use.
4. As per the SDS, wear proper personal protective equipment when handling Zirlux® resins and uncured printed parts.
5. When pouring the resin, be careful not to splash.
6. Store in a cool, dry place 15°C-30°C (59°F-86°F) and away from light. Ensure that the bottle is capped while not in use.
7. In the unlikely event of a print failure during printing, filter the liquid resin through a mesh screen with pore sizing <200 microns. It is a good practice to filter the resin in a vat periodically to prevent print failures.
8. Clean out the printer platform and vat tray prior to using a different batch of resin. Zirlux® recommends designating a vat that is specific for the Zirlux® Nightguard & Splint Print Resin - Flexible medical device printing. DO NOT mix different batches of the same product.

Compatible Equipment:

To ensure the biocompatibility of the final device, Zirlux® collaborates with printer manufacturers to provide validated printer and post-cure settings. Visit www.zirlux.com/printresins for a list of completed and in-process validations.

Directions for Use:

1. Ensure that resin is tempered to ambient temperature (20-25°C/68-77°F) prior to printing.
2. In order to achieve consistency of the resin and to prevent bubbles, agitate the bottle 1 hour prior to use. If bubbles are present, remove with a clean instrument/spatula.
3. Only use Zirlux® Nightguard & Splint Print Resin - Flexible product-specific predetermined validated settings for your DLP 3D printer. The settings are provided in a downloadable file found on www.zirlux.com/printresins. Zirlux® Nightguard & Splint Print Resin - Flexible should be used with printers of a 385nm - 405nm UV light source. Printers using alternative light sources require validation by Zirlux®'s technical team for optimal settings.
For a validated downloadable settings file for your printer, visit www.zirlux.com/printresins.
4. Once design is completed per CAD software manufacturer's directions for use, import into the CAM software unique to the printer manufacturer.
5. Nesting of the printed device in the CAM software at a 35°-50° angle using supports on the non-intaglio surface is recommended to achieve optimal results (using printer manufacturer's directions for use).
6. Resin coated parts should be cleaned with Isopropanol (at least 97% purity) within approximately 8 hours from the completion of the print. Do not allow the parts to sit in Isopropanol for longer than 5 minutes as the properties may begin to deteriorate.

*Zirlux® discourages the use of denatured alcohol or ethanol for cleaning as they may diminish or degrade the quality of the finished parts.

Directions for post-cure treatment of printed part(s):

1. Remove part from printer and build platform.
2. Remove support structures from the part if applicable.
3. Place in Stage 1 Isopropanol (IPA) bath. This bath is used for the first wash of any part coming from the printer.
4. Remove excess liquid resin from the printed part. This can be done by running fingers over the surface, swishing or vibrating with the part submerged in the IPA bath.
5. Transfer the part(s) into a Stage 2 IPA bath. In order to achieve optimal final print quality, use fresh IPA with lower concentration of contaminants. Using a soft scrub brush, toothbrush or cotton swab dipped in IPA can help remove excess resin.
6. Use compressed air to dry part, looking for residual liquid resin which will be visible as it remains glossy. If residual resin remains, repeat steps 5 and 6 as needed.
Place the part in the post-cure cure-box being sure to place the part flat to prevent warping. The Zirlux® Nightguard & Splint Print Resin - Flexible is compatible in cure-boxes with UV wavelengths of 250nm-390nm. Please visit www.zirlux.com/printresins for a list of validated post-cure boxes and their settings.
Otoflash G171 Settings: Set the post-cure-box to 2000 flashes per side to complete the post-cure process.
*Allow part to cool completely before removing from the cure-box to prevent surface defects or warping. At this stage the medical device is cured and safe with respect to residual monomers.
7. Perform the final processing (i.e., polishing).
8. Prior to delivery to the patient, clean the medical oral appliance with soap and water to ensure the device is free of any debris from the polishing process.
9. Part is ready for use. The finished medical device resulting from these directions/validated workflows is safe, biocompatible and effective.

Patient Cleaning Instructions:

This medical device is a single-patient, customized, multi-use oral appliance that should be cleaned between usages. The patient should clean the appliance with soap and warm water, or any over-the-counter mild cleaning agents indicated for oral devices. Do not soak the oral appliance for a long period of time, no more than 3 hours.

Disposal Considerations:

Zirlux® Nightguard & Splint Print Resin - Flexible is not considered an environmental hazard in its final, fully cured state. Dispose of unused and non-recyclable liquid resin materials in accordance with federal, state and local regulations.



Nightguard & Splint Print Resin - Flexible

REF 921-0037

In case of Emergency:
Chemtrec 1-800-424-9300

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Indications for Use: Zirlux® Nightguard & Splint Print Resin - Rigid is a biocompatible photopolymer resin intended for the fabrication of orthodontic and dental appliances such as mouthguards, nightguards, splints, repositioners, and retainers.

Product Description: Zirlux® Nightguard & Splint Print Resin - Rigid is a liquid photopolymer resin designed for additive manufacturing in vat Polymerization DLP printers utilizing wavelengths between 385nm–405nm. Characterized by its flexural strength and hardness, Zirlux® Nightguard & Splint Print Resin - Rigid is a material designed for 3D printing of orthodontic and dental appliances.

The user should review all applicable product labeling, including Instructions for Use, user manuals, and associated labeling for any component(s) used in conjunction with Zirlux® Nightguard & Splint Print Resin - Rigid. Strict adherence to all labeling is critical in assuring a safe and effective printed appliance.

Contraindications: Contains acrylate monomers and oligomers, which, although rare, may cause an allergic reaction in individuals sensitive to acrylic containing products.

CAUTION: US Federal law restricts this device to sale by or on the order of a dental professional.

Warnings & Precautions

1. Review the product Safety Data Sheet (SDS) before use.
2. To ensure a safe and effective final device, Zirlux® recommends using dedicated accessories for Zirlux® Nightguard & Splint Print Resin - Rigid, including resin tank, build platform, and washing station. For full biocompatibility, the dedicated accessories must not mix with any other resins.
3. Clean the printer build plate and vat tray before using a different batch of Zirlux® Nightguard & Splint Print Resin - Rigid. DO NOT mix different batches of the same product.
4. Do not use any devices or components that are not validated in collaboration with Zirlux.
5. As per the SDS, wear proper personal protective equipment when handling Zirlux® resins and uncured printed parts.
6. When pouring the resin, be careful not to splash.
7. Store in a cool, dry place 15°C-30°C (59°F-86°F) and away from light. Cap the bottle when not in use.
8. Zirlux® recommends against reclaiming the resin material without filtering. In the unlikely event of print failure, filter the liquid resin through a mesh screen with pore sizing <200 microns. It is a good practice to filter the resin vat periodically to prevent print failures.
9. To achieve proper consistency of the resin and prevent bubbles, thoroughly mix 1 hour before use.
10. Allow the resin to reach ambient temperature (20-25°C/68-77°F) before printing.
11. Limit the total wash time with Isopropanol (IPA) to no more than 5 minutes to prevent adverse effects on final physical properties.

Compatible Equipment

To ensure the biocompatibility of the final device, Zirlux® collaborates with printer manufacturers to provide validated printer and post-cure settings. Visit Zirlux®'s website for a list of completed and in-process validations (www.zirlux.com/printresins). Zirlux® Nightguard & Splint Print Resin - Rigid is compatible with DLP Printers utilizing UV wavelengths between 385nm-405nm and post-cure units using UV wavelengths of 250nm-390nm.

Processing Printed Parts

1. Pour the liquid material in the reservoir of the printer. Follow the Printers' instructions for use.
2. Print the part according to your printers' Instructions for Use. Zirlux® recommends nesting the print files on the build plate with the devices' occlusal surface angled 35-50° from the build plate.
3. Remove printed part(s) from the build plate.

Directions for cleaning/ post-cure of printed part(s)

1. **Stage 1 Cleaning**
Place printed part(s) in an Isopropanol (IPA) bath with at least 97% purity. Use this bath as the first wash of any part coming from the printer. Remove excess liquid resin from the printed part(s). Run fingers over the surface, using swishing or vibrating motions with the part submerged in the IPA bath.
2. **Stage 2 Cleaning**
Transfer the part(s) into a stage 2 IPA bath. To achieve optimal final print quality, use fresh IPA with a lower concentration of contaminants. A soft bristle brush or cotton swab dipped in IPA can help remove excess resin.
3. **Dry Part(s)**
Use compressed air to dry part(s), looking for glossy spots of residual liquid resin. If residual resin remains, repeat steps 1-3 as needed.
4. **Post Cure**
Zirlux® Nightguard & Splint Print Resin - Rigid requires post-cure to reach optimal physical properties and biocompatibility. After cleaning, place the part(s) in a validated post-cure box, ensuring the part is placed flat to prevent warping. Cure time will depend on the wavelength and intensity of light used. One validated method of post-curing is:
Otoflash G171: Set the post-cure box to 2000 flashes per side without nitrogen
See Zirlux®'s website (www.zirlux.com/printresins) for validated post-cure box settings.
Allow part to cool completely before removing from the cure-box to prevent surface defects or warping.

The finished medical device resulting from following these directions/validated workflows is safe, biocompatible, and effective for its intended use.

Clinical Use Instructions: The appliance fabricated with Zirlux® Nightguard & Splint Print Resin - Rigid is a customized single-patient, multi-use oral appliance that should be cleaned between uses. The patient can clean the appliance with soap and warm water, or any over-the-counter cleaning agent indicated for oral devices. Do not soak the finished appliance longer than 3 hours.

Disposal Considerations: Zirlux® Nightguard & Splint Print Resin - Rigid is not an environmental hazard in its final, fully cured state. Dispose of unused and non-recyclable liquid resin materials in accordance with federal, state, and local regulations.



Nightguard & Splint Print Resin - Rigid

REF 921-0036

In case of Emergency:
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Keep away from sunlight
Protéger de la luz del sol
Protéger du rayonnement solaire



Keep dry
Almacenar en un lugar seco
Stocker dans un endroit sec

Rxonly MD

Min.
15°C
59°F
Max.
30°C
86°F

Zirlux® Surgical Guides Print Resin is a light-curing resin for the fabrication of biocompatible dental surgical guides to be used in DLP 3D printers utilizing wavelengths between 385nm - 405nm.

Indications for Use: Zirlux® Surgical Guides Print Resin is indicated for intra-oral use in guided dental implant surgery by a dental professional.

Warnings & Precautions:

1. Follow all recommended validated settings for biocompatible print results.
2. Review the product Safety Data Sheet (SDS) prior to use.
3. As per SDS, wear proper personal protective equipment when handling Zirlux® resins and uncured printed parts.
4. When pouring the resin, be careful not to splash.
5. Store in a cool, dry place and away from light.

Contraindications: Contains acrylated monomers and oligomers which, although rare, may cause an allergic reaction in individuals sensitive to acrylic containing products.

Processing Tips:

1. Ensure that resin is tempered to ambient temperature (20-25°C/68-77°F) prior to printing.
2. In order to achieve consistency of the resin and to prevent bubbles, agitate the bottle 1 hour prior to use. If bubbles are present, remove with a clean instrument/spatula.
3. Only use Zirlux® product-specific predetermined settings for your DLP 3D printer. Zirlux® Surgical Guides Print Resin should be used with a 385nm - 405nm UV light source. Printers using alternative light sources require validation by manufacturer's technical team for optimal settings. Unless specified, always print using the settings provided at www.zirlux.com/printresins.
4. Resin coated parts should be cleaned with Isopropanol (at least 97%) within approximately 8 hours from the completion of the print. Do not allow the parts to sit in Isopropanol for longer than 5 minutes as the properties may begin to deteriorate.
5. Zirlux® discourages the use of denatured alcohol or ethanol for cleaning as it may diminish or degrade the quality of the finished parts.

Directions for cleaning and post-cure treatment of printed part(s):

1. Remove part from printer and build platform.
2. Remove support structures from the part if applicable (Optional: remove supports before or after post-cure).
3. Place in Stage 1 Isopropanol (IPA) bath. This bath is used for the first wash of any part coming from the printer.
4. Remove excess liquid resin from the printed part. This can be done by running fingers over the surface, swishing or vibrating with the part submerged in the IPA bath.
5. Transfer the part(s) into a Stage 2 IPA bath. In order to achieve optimal final print quality, use fresh IPA with lower concentration of contaminants. Using a soft scrub brush or tooth brush can help remove excess resin.
6. Use compressed air to dry part, looking for residual liquid resin, which will be visible as it remains glossy. If residual resin remains, repeat steps 5 & 6 as needed.
7. Place the part in a post processing cure box, being sure to place the part flat to prevent warping. Refer to www.zirlux.com/printresins to locate validated cure box settings. Resins are compatible in cure boxes with UV wavelengths of 250nm - 390nm.
8. Allow part to cool completely before removing from the cure box to prevent surface defects or warping.
9. Perform final processing (i.e. polishing).
10. Part is ready for sterilization.

Sterilization Tips: 3D printed surgical guides are custom made single-use medical devices that will be manufactured according to a written prescription or pattern. Zirlux® Surgical Guides Print Resin surgical guide at its final fabricated form is not sterile and should be sterilized by the use of a steam autoclave prior to the intended use. Please follow your local infection-control sterilization guidelines for autoclave parameters. For further information on steam sterilization please visit www.zirlux.com/printresins.



Surgical Guides Print Resin

REF 921-0033

In case of Emergency:
Chemtrec 1-800-424-9300

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Disposal Considerations: Zirlux® Surgical Guides Print Resin is not considered an environmental hazard in its final, fully cured state. Dispose of unused and non-recyclable liquid resin materials in accordance with federal, state and local regulations.

