How to gown for a cleanroom: gowning and entry procedure

This procedure explains how to gown for a cleanroom, from the tacky mat outside the changing room to the air shower at the cleanroom door. You put on each garment in a set order, inspect your gowning, clean your gloves, check for entry restrictions, and pass through the air shower. Following the sequence controls contamination and protects sensitive hardware and processes.

Scope

This procedure covers personnel gowning and entry for a cleanroom following the protocol of the Space Dynamics Laboratory at Utah State University. It applies when you handle flight hardware, work with electrostatic sensitive devices, or work under strict cleanliness requirements.

The procedure does not state a cleanroom class, a process area, or product-specific contamination limits. Add those details here for your facility.

Entry requirements

Before you start, gather or confirm access to the following items in the gowning area:

- Tacky mat at the entrance to the changing area
- Reusable shoe covers
- Bouffant cap, and a hair tie if you have long hair
- Face mask, and a beard cover if you have facial hair
- Cleanroom hood
- Coverall in your size
- Cleanroom boots in your size
- ESD wrist strap, if ESD protection is required
- Gloves in your size, sized Medium, Large, or X-Large
- ESD (antistatic) tape
- Safety glasses or goggles, if required
- Polypropylene wipes and isopropyl alcohol (IPA)
- Mirror in the gowning area

You must wear a bouffant cap whether or not you have hair. A beard cover alone is not acceptable; you must also wear a face mask.

The procedure does not specify training, health, cosmetics, personal item, or badge restrictions. List those requirements here for your facility.

Gowning sequence

Complete the steps in order. Keep garments off the floor at every stage.

1. Step on the tacky mat

Before you enter the changing room, step on the tacky mat with both feet. Stay on the mat long enough to remove loose particles from your shoes.



A person steps on a blue tacky mat near bins labeled "Used Booties" and "New Booties" while holding a shoe cover.

2. Put on reusable shoe covers

Put on reusable shoe covers after cleaning your shoes. Make sure the covers fully enclose your shoes.

3. Put on a bouffant cap

Place the bouffant cap over your head. Cover all of your hair completely. Use a hair tie if needed to secure long hair under the cap.

4. Put on a face mask and beard cover

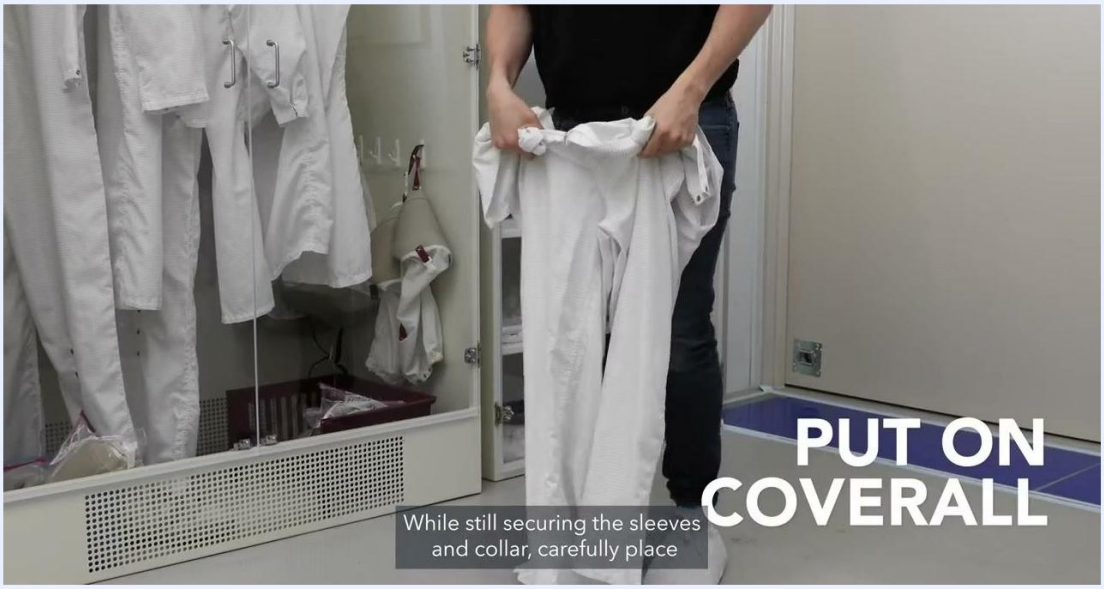
Put on a face mask with the strap-attachment side facing toward your face. If you have facial hair, also put on a beard cover. Form the nose bar over the bridge of your nose for a snug fit.



A person wearing a bouffant cap takes a face mask or beard cover from a cabinet labeled "COVER FACE", with cleanroom garments hanging inside.

5. Put on a cleanroom hood

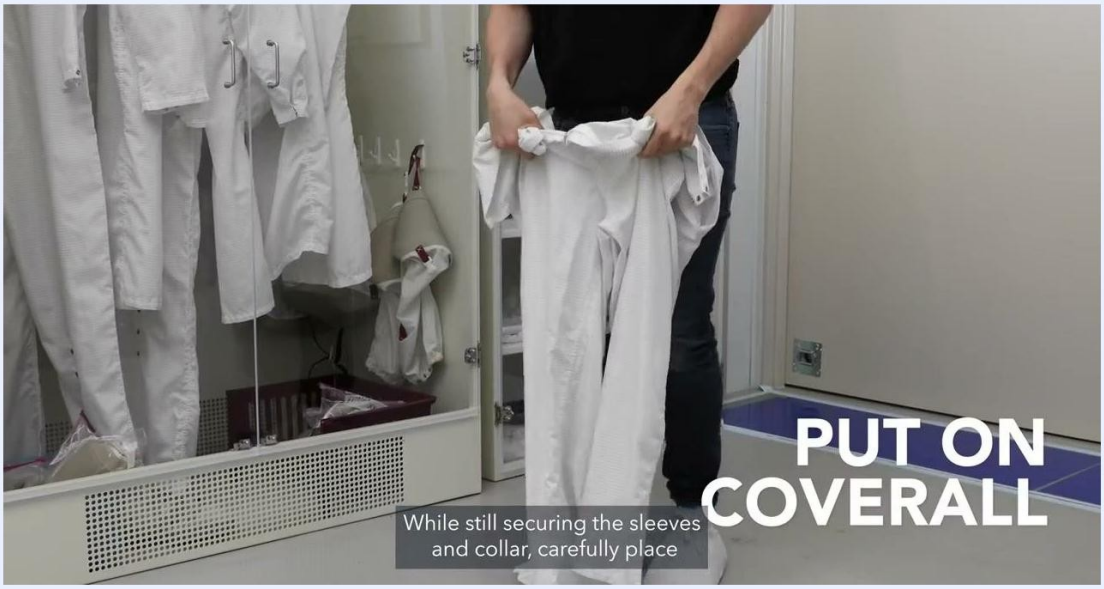
Place the cleanroom hood over your head. Use the vertical and horizontal adjustments so the hood fits comfortably and snugly with no gaps around your face. Use the snaps to tighten the hood as needed.



A person puts on a cleanroom hood, with instructions and cleanroom supplies visible in the background.

6. Select and prepare a coverall

Select a coverall in your size and pick it up by the collar so it does not touch the ground as it unfolds. Unzip it completely. Hold it with the collar up and the zipper facing away from your body. Keep the sleeves off the ground.

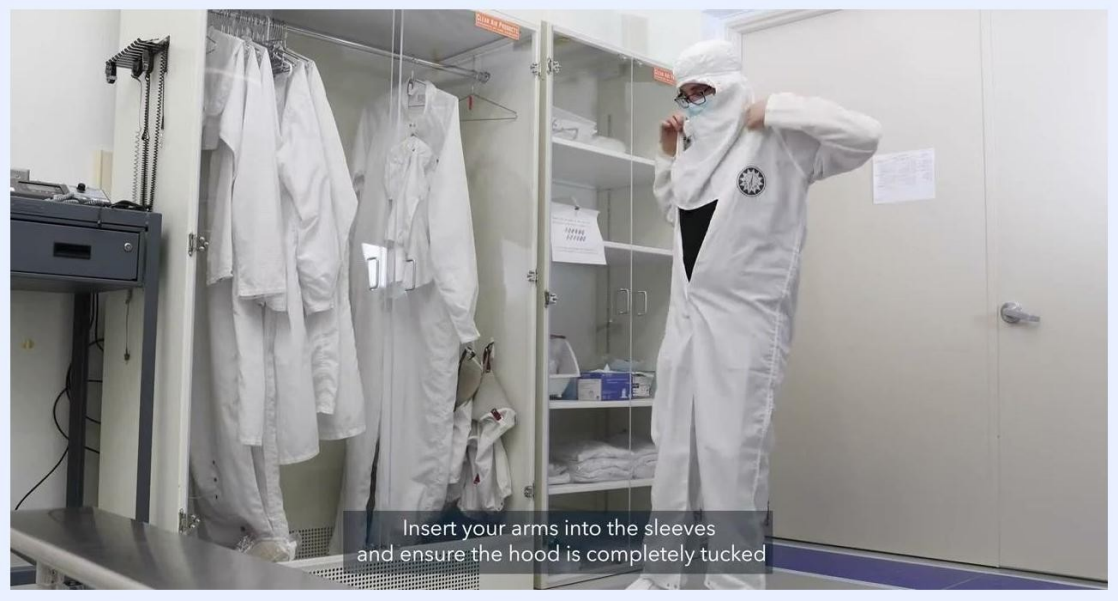


A person holds a cleanroom coverall by the collar so it stays off the ground.

7. Put on the coverall

Keep control of the sleeves and collar as you place each leg into the coverall. Stand or sit on a bench for stability if one is available. Insert your arms into the sleeves.

Make sure the cleanroom hood is completely tucked underneath the coverall. Zip the coverall up fully, then snap the collar and leg bottoms so they are snug.



A person inserts their arms into the sleeves of a cleanroom coverall with the hood tucked underneath.

8. Select and put on cleanroom boots

Select cleanroom boots in your size and sit on the side of the bench closest to the cleanroom exit. Put the boots on one at a time, and keep them from touching the ground.



A person sits on a bench and puts on cleanroom boots one at a time.

9. Adjust and secure the boots

Adjust the snaps at the top of each boot so they are snug around the coverall. Fasten the button or closure to hold the boots in place.

Then fasten the button or clip on the back of each boot to the calf area of the coverall, and tighten the straps around the boot. After you secure one boot, move that leg over the bench without touching the top of the bench. Place it on the clean zone side, then repeat for the other leg.

If the room is small and has no marked division between the gowning zone and the clean zone, keep the same level of cleanliness.



A person in full cleanroom attire sits on a bench and secures a boot to the calf of the coverall.

10. Put on an ESD wrist strap if required

If ESD protection is required, put on an ESD wrist strap before you handle gloves. Make sure the strap is properly grounded.

11. Select and put on gloves

Choose gloves in your size from the bins labeled "Medium," "Large," and "X-Large." Pick up each glove by the cuff so you do not contaminate the fingers. Put the gloves on so they fit snugly but not too tightly.



A person puts on gloves by the cuff, with glove-size bins and an ESD wrist strap visible.

12. Seal the glove cuffs with ESD tape

Pull the glove cuffs over the coverall sleeves at the wrists. Seal the cuffs with ESD (antistatic) tape so no skin is exposed near your hands. Leave a folded section of tape at the end so you can remove it easily during degowning.



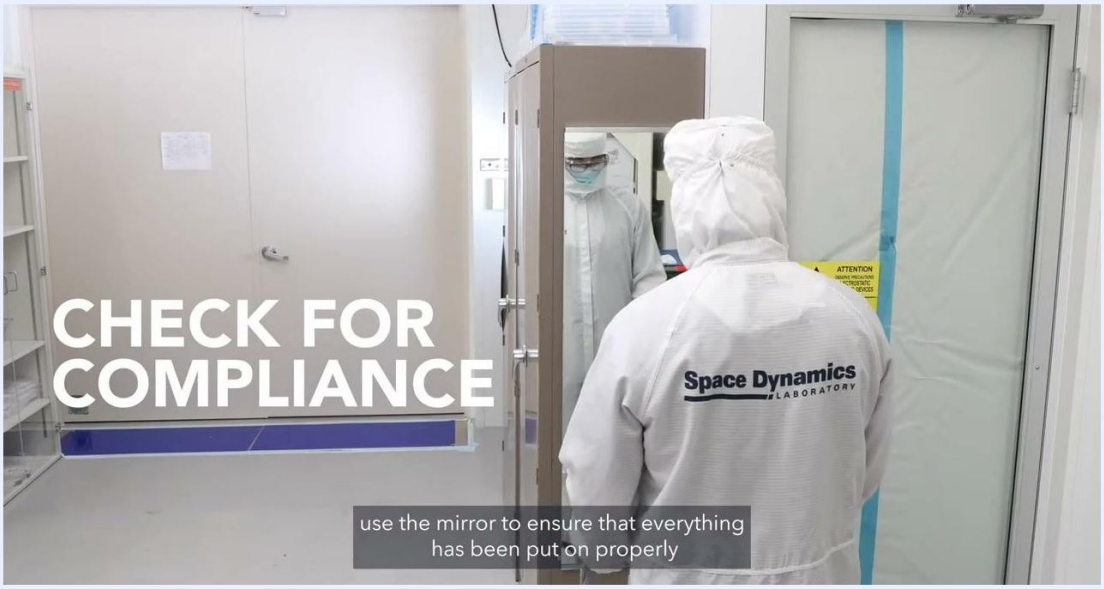
A close-up of gloved hands with ESD tape sealing the glove cuffs over the coverall and a folded tab left for removal.

13. Replace damaged gloves

If a glove is punctured or torn, immediately put a new pair of gloves over the old pair. Seal the new gloves with ESD tape.

14. Put on safety glasses or goggles if required

If required, select a pair of safety glasses or goggles and clean them before you put them on. Goggles are mandatory when you handle flight hardware or when sensitive cleanliness requirements apply.



A person in full cleanroom attire puts on safety glasses, with glove bins and an isopropanol bottle nearby.

15. Check your gowning in the mirror

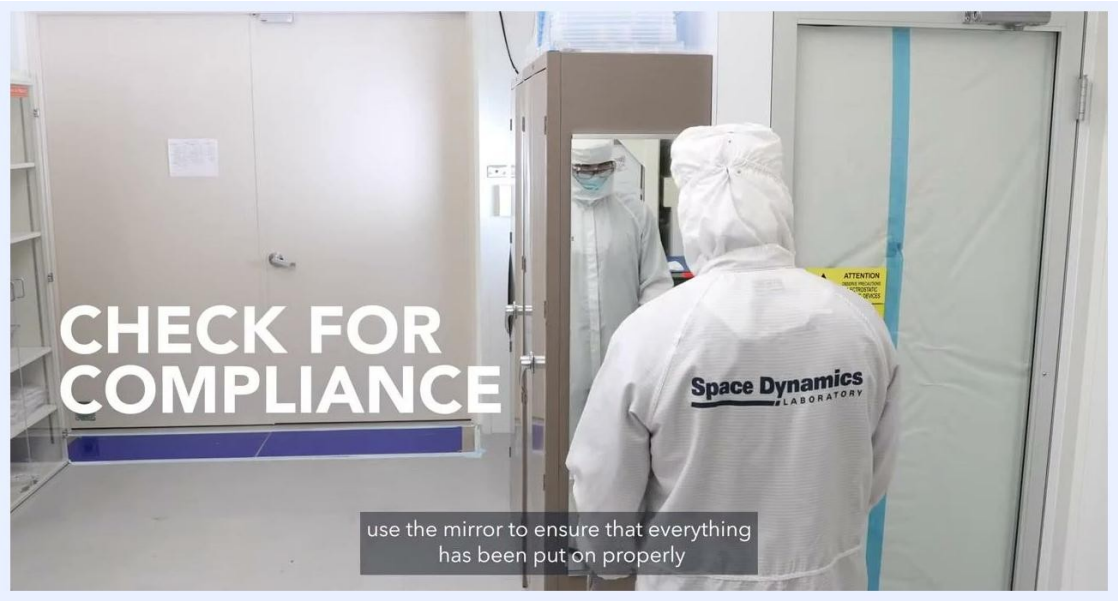
Use the mirror in the gowning area to confirm that you have put on all garments and PPE correctly. Everything must be covered except the area around your eyes.



A person in cleanroom attire checks their gowning in the gowning-area mirror.

16. Wipe down your gloves and the bench

Wipe your gloves thoroughly with a polypropylene wipe and isopropyl alcohol (IPA). If you used a bench to gown, wipe it down with the same materials. This step is critical when you work with flight hardware or in environments with strict cleanliness requirements.



A person in cleanroom attire cleans their gloves with a polypropylene wipe and IPA.

17. Check for entry restrictions

Read all signs posted at the cleanroom entrance for restrictions or special requirements. Look for signs such as:

- "ATTENTION: OBSERVE PRECAUTIONS ELECTROSTATIC SENSITIVE DEVICES"
- "SENSITIVE HARDWARE DO NOT ENTER – AUTHORIZED PERSONNEL ONLY"

Confirm that your entry is permitted, especially if flight hardware or sensitive operations are in progress.



A cleanroom entrance with yellow warning signs for electrostatic sensitive devices and restricted access, and a person in full cleanroom attire preparing to enter.

18. Step on the tacky mat at the air shower

Place both feet firmly on the tacky mat at the air shower. Depending on the cleanroom, the mat is outside or inside the air shower. It removes dust and particles from your cleanroom boots before entry.



A close-up of cleanroom boots stepping onto a blue tacky mat in front of the air shower.

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19. Enter the air shower and perform the blow-off

Step into the air shower chamber after you clean your boots, and make sure the door is securely closed before the cycle starts. Stand upright with your arms away from your midline so they do not touch your body. Rotate slowly so the air jets reach all surfaces of your gowning.



A person in full cleanroom attire stands in the air shower with arms away from the body, with warning signs and "ENTER CLEANROOM" text visible.

20. Complete the air shower cycle and enter

Stay inside until the cycle finishes and the magnetic locks on the exit door release automatically. Do not touch your face or gowning during this time.



A person in the air shower during the blow-off cycle, with arms away from the body and "ENTER CLEANROOM" text visible.



Space Dynamics Laboratory, Utah State University logo on a black background with sdl.usu.edu URL.

When the exit door unlocks, go directly into the cleanroom.

Degowning

The procedure does not describe degowning steps. Document the degowning order here. The only related detail is the folded tab of ESD tape on the glove cuffs, which makes the tape easy to remove.

Cleanroom conduct

After you enter, avoid touching surfaces unnecessarily. Do not touch your face or gowning. If a glove punctures or tears, immediately put a new pair of gloves over the old pair and seal them with ESD tape.

The procedure does not specify rules for movement, talking, tool use, paper, phones, or other prohibited behaviors. Define those rules here.

Material transfer

The procedure covers only wiping down your gloves, and any bench you used, with a polypropylene wipe and IPA. It does not describe pass-throughs, double bagging, carts, or chemical and container controls. Document those transfer controls here.

Monitoring

The procedure gives no particle, molecular, humidity, temperature, or surface check methods or limits. Put a table of those checks and their limits here.

Excursion response

The procedure covers one excursion, a punctured or torn glove, and tells you to put on a second pair of gloves immediately and seal them with ESD tape. It does not describe product hold, area restriction, notification, or recovery verification. Document those actions here.