Tartan Skirts

User Guide

Installing, configuring and using the skirts in Unreal Engine 5.8

A collection of pleated skirts with a customizable tartan material, Chaos Cloth simulation and a wardrobe item for MetaHuman. This guide explains how to open the project, transfer the clothing to your own scene and customize its appearance.

1 Opening the supplied project

1. Extract the project and open TartanSkirts.uproject in Unreal Engine 5.8.

2. If the editor prompts you to enable plugin dependencies, confirm that they should be enabled.

3. Wait for shader compilation to finish.

4. Open the demo map at Content/TartanSkirt/Map/OverviewMap.

The required plugins and settings are already enabled in the supplied project. When migrating assets to another project, configure them separately.

2 Plugins

Open Edit → Plugins. For the full workflow, including cloth editing and using the clothing with MetaHuman, enable the following plugins.

Plugin	Purpose
Chaos Cloth Asset	Cloth assets and simulation
Chaos Cloth Asset Dataflow Nodes	Building cloth through Dataflow
Chaos Cloth Asset Editor Core	Editing Cloth Assets
Chaos Outfit Asset	Working with Outfit Assets
Mesh Resizing	Resizing clothing
MetaHuman Creator	Using clothing in the MetaHuman editor

Chaos Cloth Asset USD Dataflow Nodes is also enabled in the source project. It is required for working with USD import nodes in the source Dataflow graphs. Allow Unreal Engine to enable the related dependencies, then restart the editor.

To create and edit MetaHumans, install MetaHuman Creator Core Data through the Unreal Engine installation options in the Epic Games Launcher.

3 Project settings

Open Edit → Project Settings. Use the search bar to find the settings.

Setting	Value	Purpose
Substrate materials	Enabled	Required for the skirt material
Substrate GBuffer Format	Blendable	Source project setting

Setting	Value	Purpose
Support Compute Skin Cache	Enabled	MetaHuman workflow
Support 16-bit Bone Index	Enabled	Character configuration
Unlimited Bone Influences	Enabled	Character configuration
Default RHI for Windows	DirectX 12	Rendering configuration
D3D12 Targeted Shader Formats	SM6	Rendering configuration

After changing the settings, restart the editor and wait for shader compilation to finish.

Substrate is particularly important because the skirt material uses this system. The material may appear black in a project with Substrate disabled.

The source project uses the following lighting settings:

- Dynamic Global Illumination Method → Lumen.
- Reflection Method → Lumen.
- Shadow Map Method → Virtual Shadow Maps.
- Generate Mesh Distance Fields → Enabled.

Hardware Ray Tracing is enabled in the source project, but it is not required for the tartan material to work. Its use depends on your graphics card and chosen rendering method.

Lighting, exposure and post-processing affect the final fabric color. The result in your own scene may differ from the preview images.

4 Migrating to another project

1. Prepare the destination project by enabling the plugins and settings listed in the previous sections.

2. Locate the Content/TartanSkirt folder in the source project.

3. Select the required assets and choose Asset Actions → Migrate.

4. Keep the required dependencies selected in the migration dialog.

5. Select the destination project’s Content folder as the migration target.

6. After migration, open the destination project and wait for compilation to finish.

Asset migration does not transfer project settings. Even when all dependencies are migrated, check Substrate and the plugins separately.

5 Package contents

Asset	Purpose
CA_Average	Average source cloth variant
CA_Curvi	Curvi source cloth variant
CA_FullWaist	FullWaist source cloth variant
OA_TartanSkirt	Outfit Asset
WI_OA_TartanSkirt	Ready-to-use MetaHuman wardrobe item
BP_Average	Demo character Blueprint

Asset	Purpose
M_Tartan	Master material
MI_Tartan_Burgundy	Burgundy color preset
MI_Tartan_Emerald	Green color preset
MI_Tartan_Ochre	Ochre color preset
MI_Tartan_Slate	Blue-gray color preset

6 Using the skirt with MetaHuman

1. Open your MetaHuman Character in MetaHuman Creator.

2. Go to Hair & Clothing → Outfit Clothing.

3. Locate Content/TartanSkirt/OutfitAsset/WI_OA_TartanSkirt in the Content Browser.

4. Drag WI_OA_TartanSkirt into the Outfit Clothing section.

5. Select the item and click Wear, or double-click it.

6. Allow the clothing assets to finish preparing the first time you apply the item.

7. Remove any other clothing that intersects with the skirt.

8. Check the fit on the selected body shape and save the character.

Use the supplied WI_ asset rather than adding OA_ again: adding the Outfit Asset again may overwrite the settings of the existing Wardrobe Item.

The source size variants help adapt the skirt to different body shapes. Significantly different proportions may require additional adjustments to the fit and collisions.

7 Using the demo Blueprint

The demo character is located at Content/TartanSkirt/Blueprint/Average/BP_Average. Drag it into your level. Duplicate the Blueprint before making your own changes.

Check cloth movement during scene playback. A static display in the editor does not necessarily mean that simulation is not working.

When transferring the skirt to another character, account for the body binding, animation and collisions. Simply replacing the body mesh does not guarantee a correct fit.

8 Customizing colors and materials

The supplied color presets are located at Content/TartanSkirt/Materials/Instances.

1. Duplicate a suitable Material Instance and open the copy.

2. Enable the checkboxes to override the parameters you want to adjust.

3. Change the values and save the material.

4. Assign it to the skirt’s material slot on the clothing component or in the corresponding Cloth Asset.

Parameter	Controls
FabricColor	Base fabric color

Parameter	Controls
StripeColor01–06	Colors of the tartan stripes
PatternSize	Size of the tartan pattern
UVOffsetX, UVOffsetY	Pattern offset
ResizeU, ResizeV	Pattern proportions
MicroScale	Scale of the fine weave
NormalStrength	Surface relief intensity
Roughness	Surface roughness
RoughnessDetail	Fine roughness variation
FuzzAmount	Strength of the fabric fuzz effect

Start with an existing preset and adjust the parameters gradually. If several skirts share one Material Instance, editing it affects all of them. Use separate copies for independent color schemes.

If the color changes as the camera moves farther away, check the material assignments on the clothing's other LODs.

9 Troubleshooting

Issue	What to check
The skirt is completely black	Whether Substrate is enabled and the editor has been restarted
Gray material or checkerboard pattern	Whether shader compilation has finished and the material and textures have been migrated
The color differs from the preview	Lighting, exposure, white balance and post-processing
The color changes with distance	Material assignments on all active LODs
The skirt intersects with the body	Clothing size, body proportions, collisions and other clothing
The cloth does not move	Whether a Cloth Component is used, simulation is enabled and playback is running
The skirt jerks at the start of the render	Time allowed for simulation to settle and any sudden pose change before the first frame
The fine weave shimmers	Normal map strength, microdetail scale and anti-aliasing quality

Black patches on a static skirt with Ray Tracing

If the issue occurs after converting the skirt to a Static Mesh with Nanite, check the Nanite Fallback geometry. Heavily simplified geometry can produce incorrect shadows on the pleats.

To test this, temporarily disable Nanite on the affected skirt and compare the result. If the patches disappear, you can increase the accuracy of the fallback geometry: select Fallback Target → Relative Error, set Fallback Relative Error → 0, and apply the changes. This increases the amount of geometry and the rendering cost.

This issue is related to the geometry used for ray tracing and does not necessarily require changes to the material.

Epic Games documentation

Substrate Materials Overview

https://dev.epicgames.com/documentation/unreal-engine/overview-of-substrate-materials-in-unreal-engine

Testing and Configuring your Parametric Outfit Asset

https://dev.epicgames.com/documentation/metahuman/testing-and-configuring-your-parametric-outfit-asset