

The background of the image is a nighttime street scene in Seoul, South Korea. The scene is filled with bright, colorful neon signs in Korean script (Hangeul) advertising various businesses like restaurants and bars. A white car is visible in the lower right foreground, slightly blurred. The overall atmosphere is energetic and futuristic.

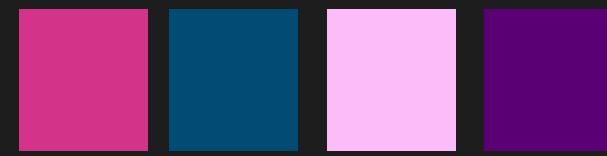
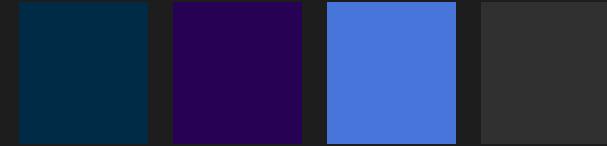
Informatica Grafica - A.A 2023/24

# Neon Street

Blender project

Alessandro Locatelli, 879362

# Inspiration



# Core Elements

Lighting

Subject

Ambience

Night time in the city

Missing in references

Rainy

Signs and billboards

A car would fit the aesthetic

Wet surfaces

Neon palette

Fog

# RENDER

本部

宿

APPORO  
DRAFT BEER

腹八分目

レナンテ  
ケルシバー

OPEN  
AM11:00 - PM9:00

お仕事  
お仕事の仕事  
お仕事

LOVELESS  
0080  
開幕

3141-04

# 本部

元春宿

レナント  
ケロシタ

OPEN  
AM11:00 - PM9:00



LOVELESS

APPORO  
DRAFT BEER

股ハ分目

314-F04



# CAR







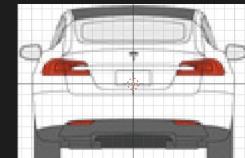
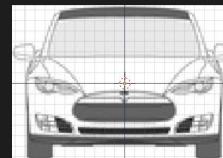
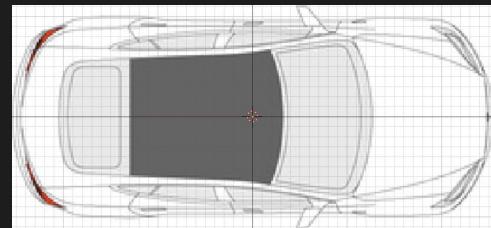
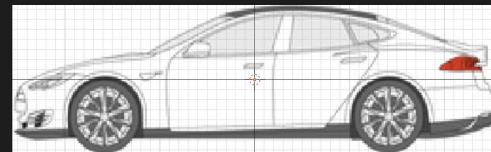
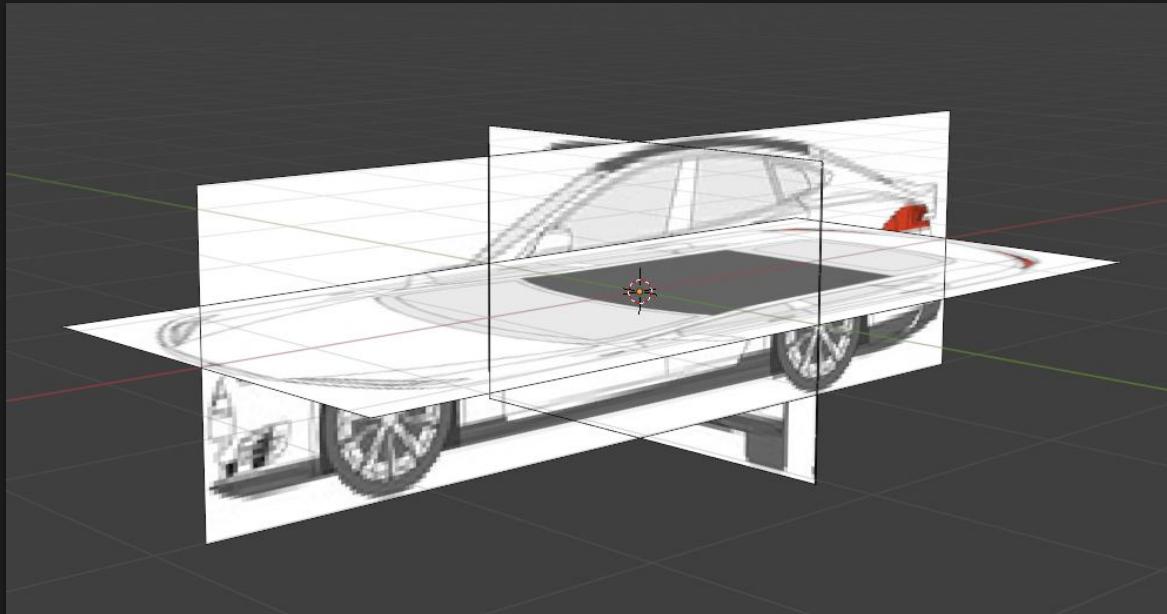
# Reference



Tesla Model S

# Setup

Using Tesla Model S blueprints as reference

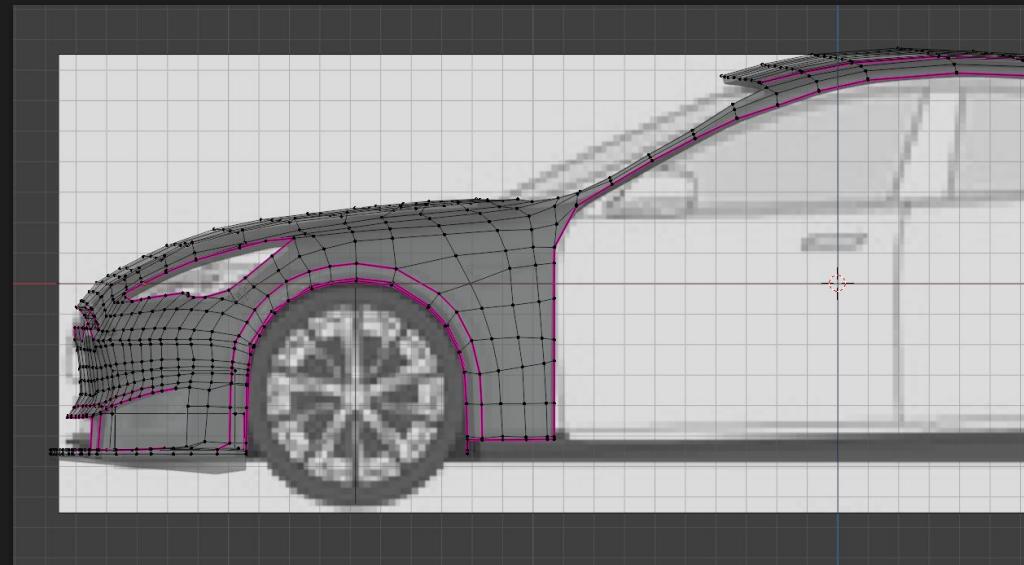


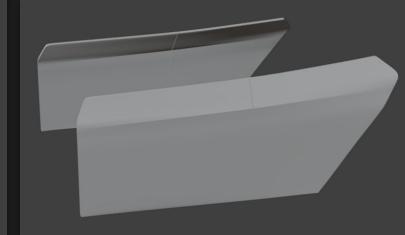
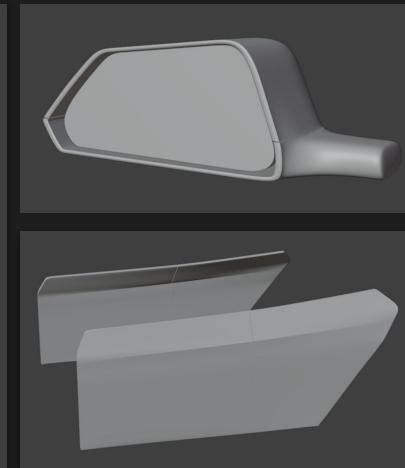
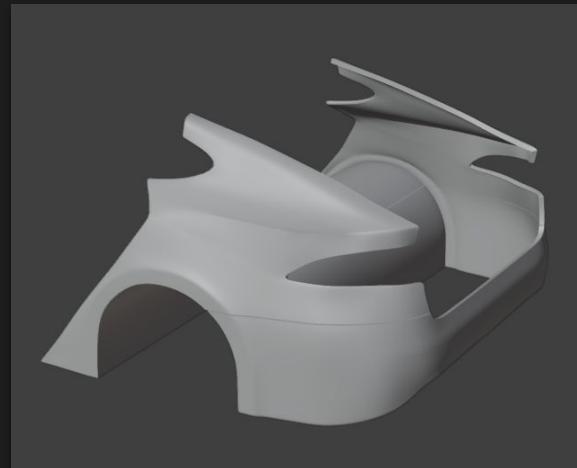
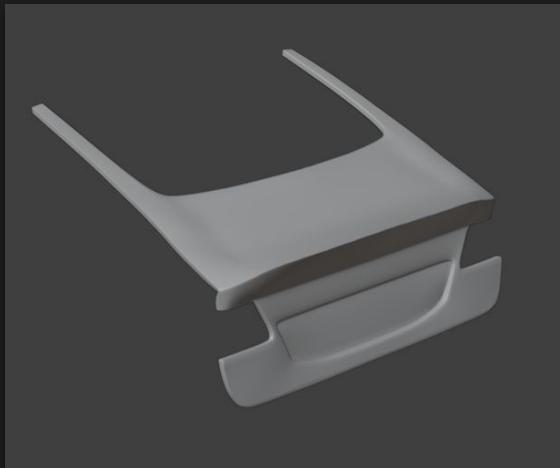
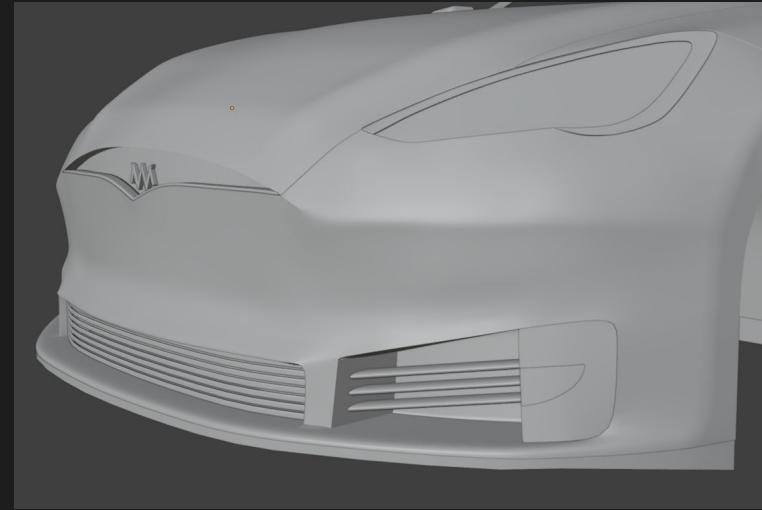
# Model

Starting from a plane and using:

- Translation, edge slide
- Loop Cuts
- Extrusion

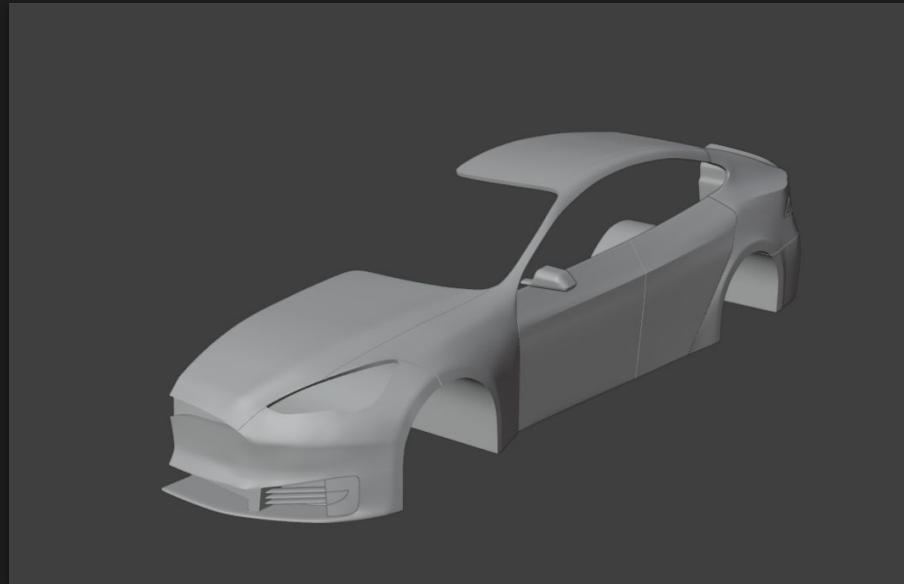
on all vertices, following blueprints





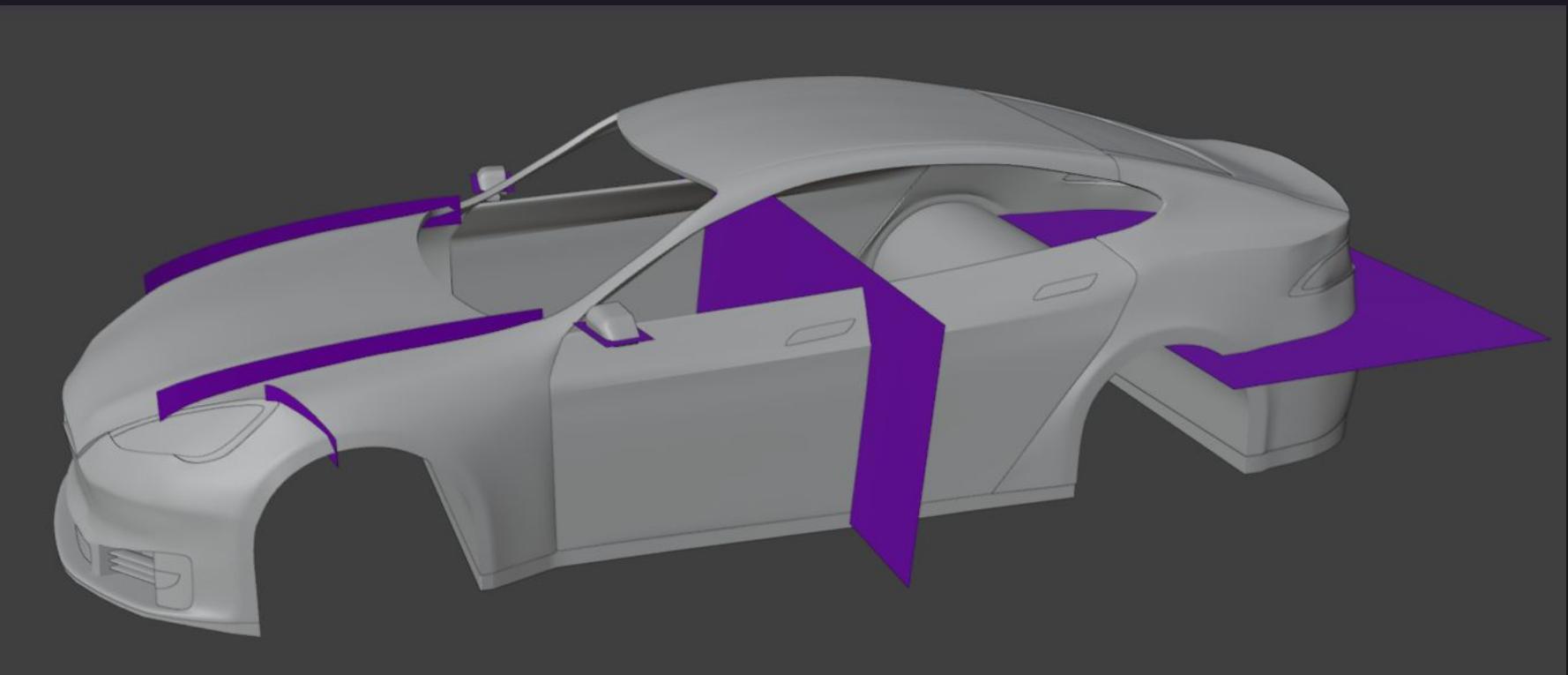
# Modifiers

- **Mirror:** only the right half of the car was modeled
- Subdivision surface
- Boolean
- Solidify



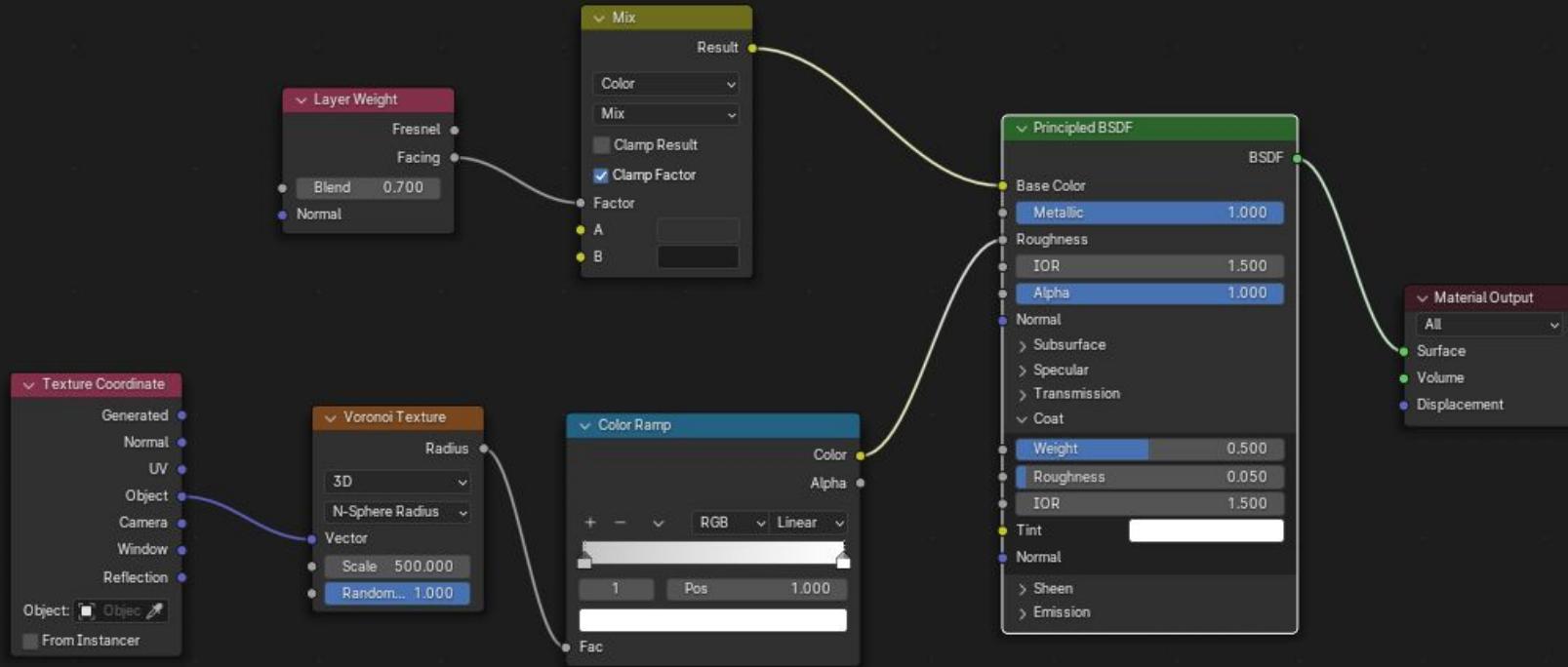
Actual car model, without mirroring

# Boolean



Subtraction planes highlighted in purple

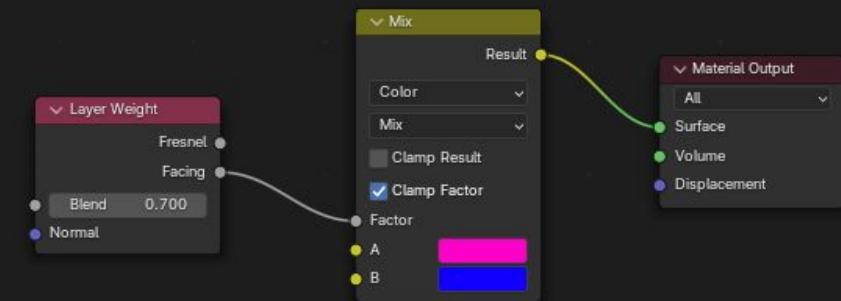
# Shading



Node setup for car paint

# Layer Weight

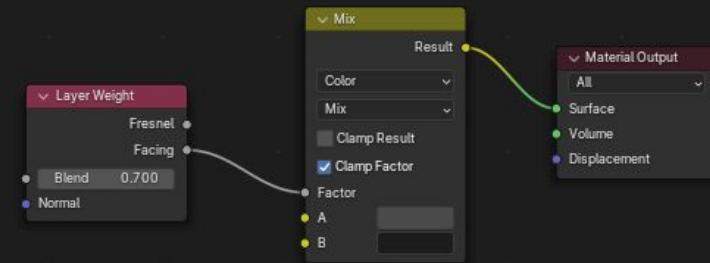
Creates a mask that can be used to mix different colors based on camera position



An example of what layer weight with mix shader can achieve

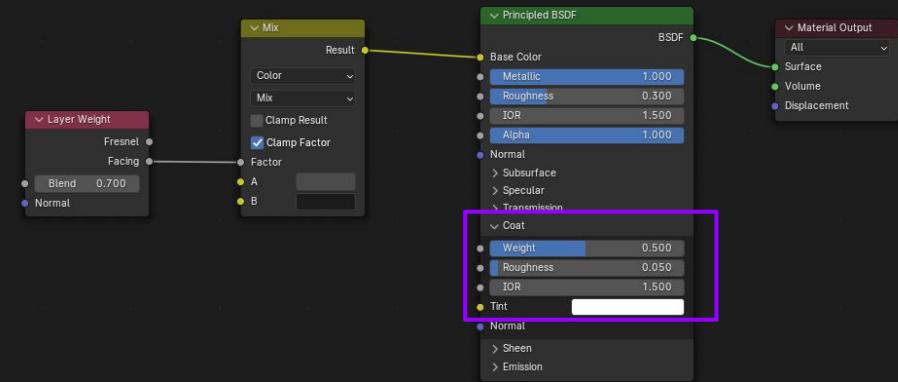
# Shading

Using *Layer Weight + Mix Color* to add subtle color variation



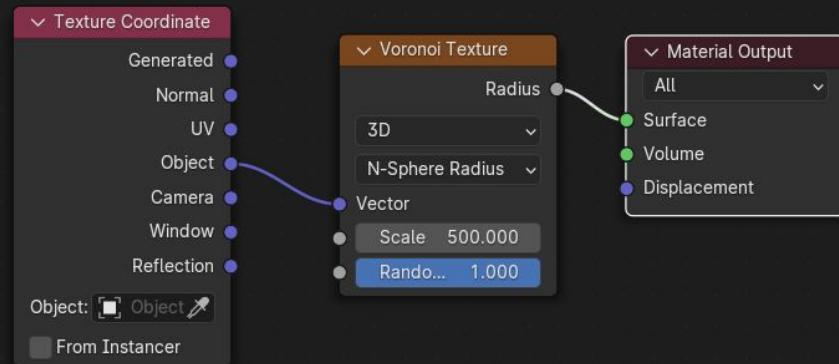
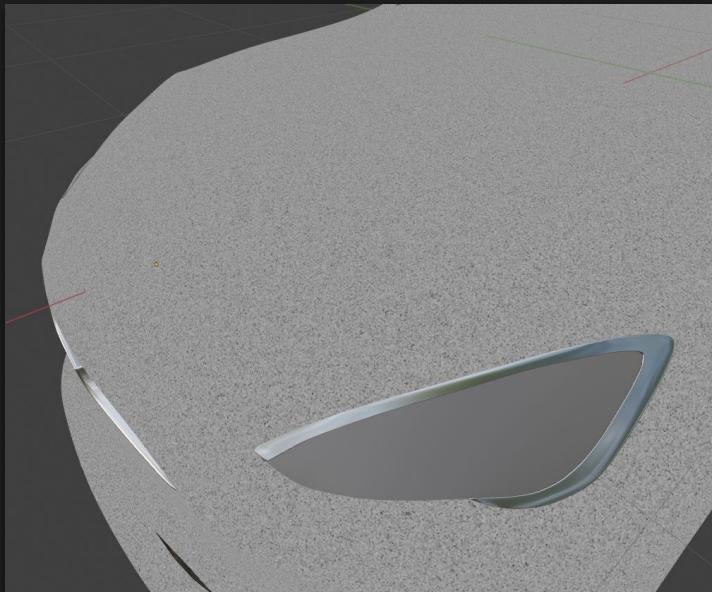
# Shading

1. Mixed colors into Principled BSDF
2. Applying coat layer with low roughness



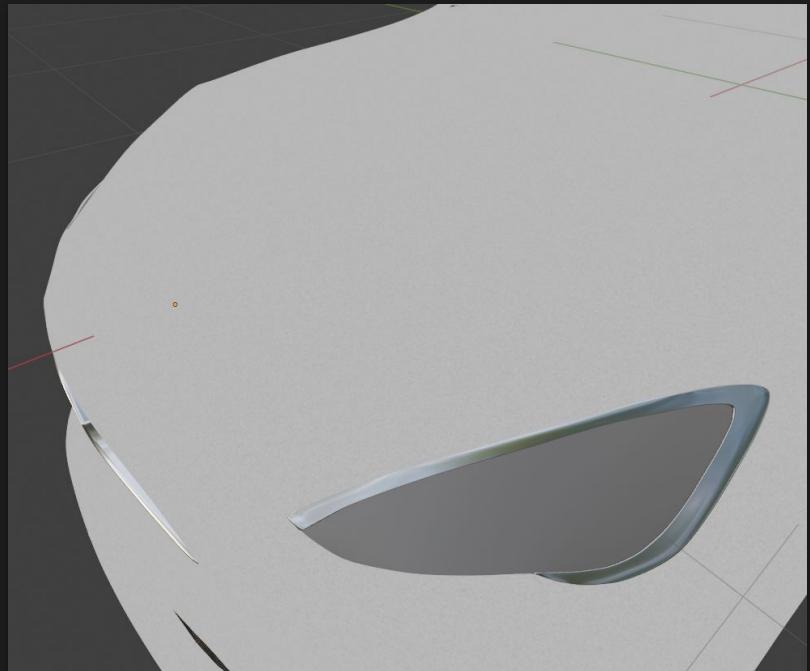
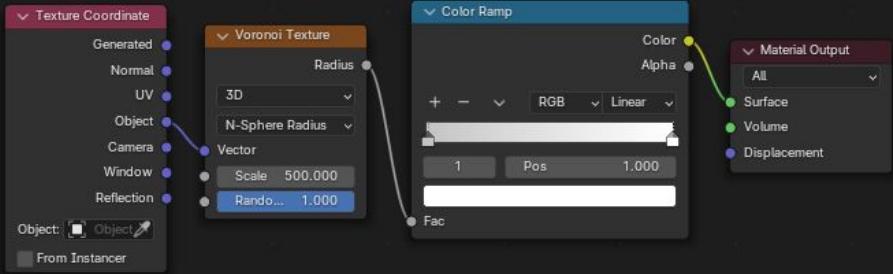
# Shading

*Voronoi Texture* simulates paint drops



*Voronoi Texture* scaled by 500

# Shading



Using *Color Ramp* to soften the texture

# Shading

Using the texture as roughness input for *Principled BSDF*



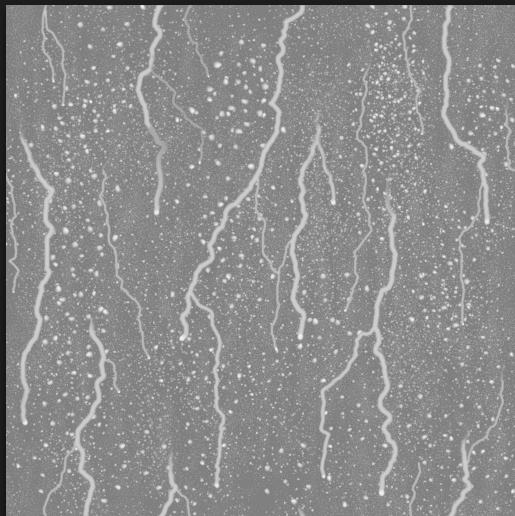
Before



After

# Rain Drops

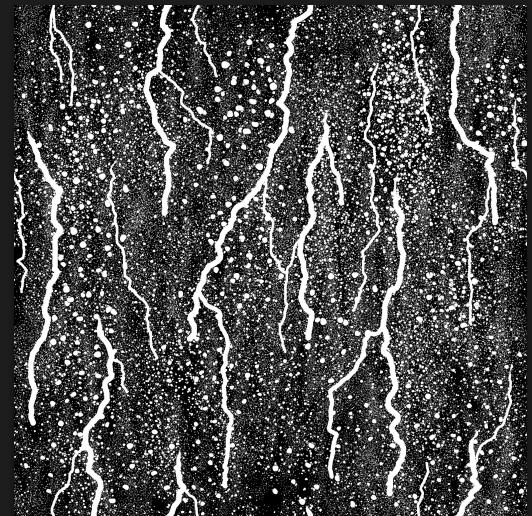
This texture is used across all “wet” assets in the project



Height Map



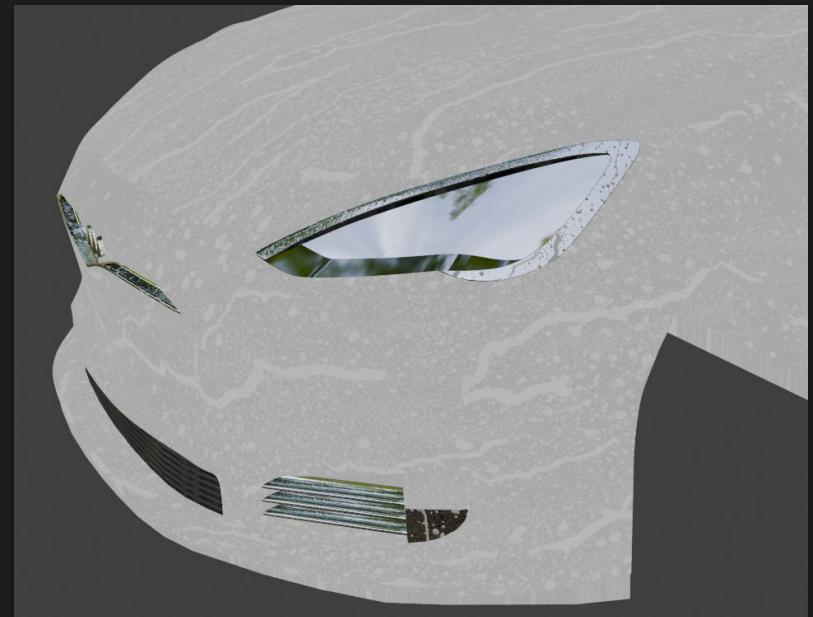
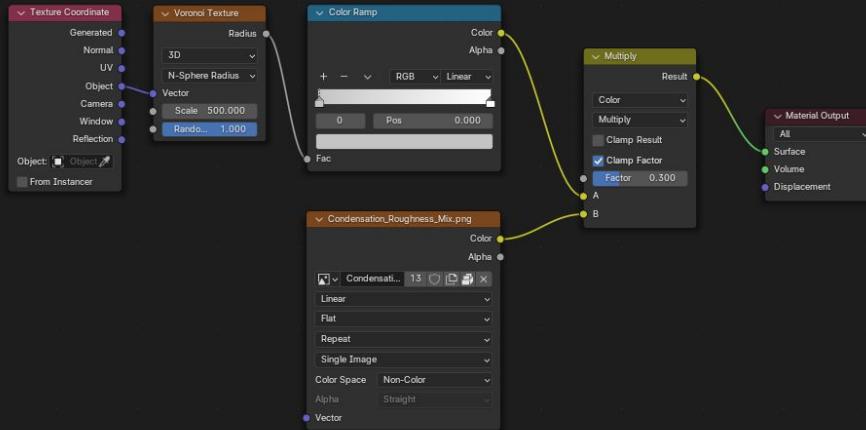
Normal Map



Roughness Map

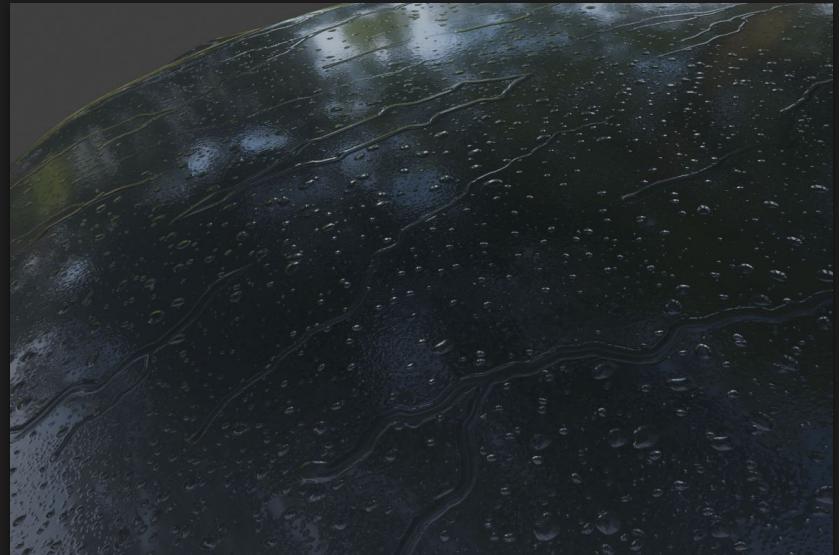
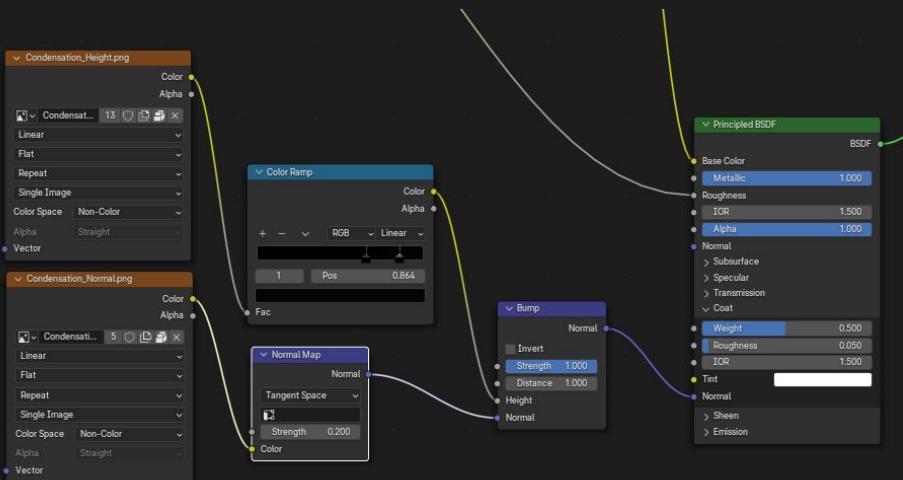
# Rain Drops

Roughness: combining paint texture with raindrops roughness with *Multiply*



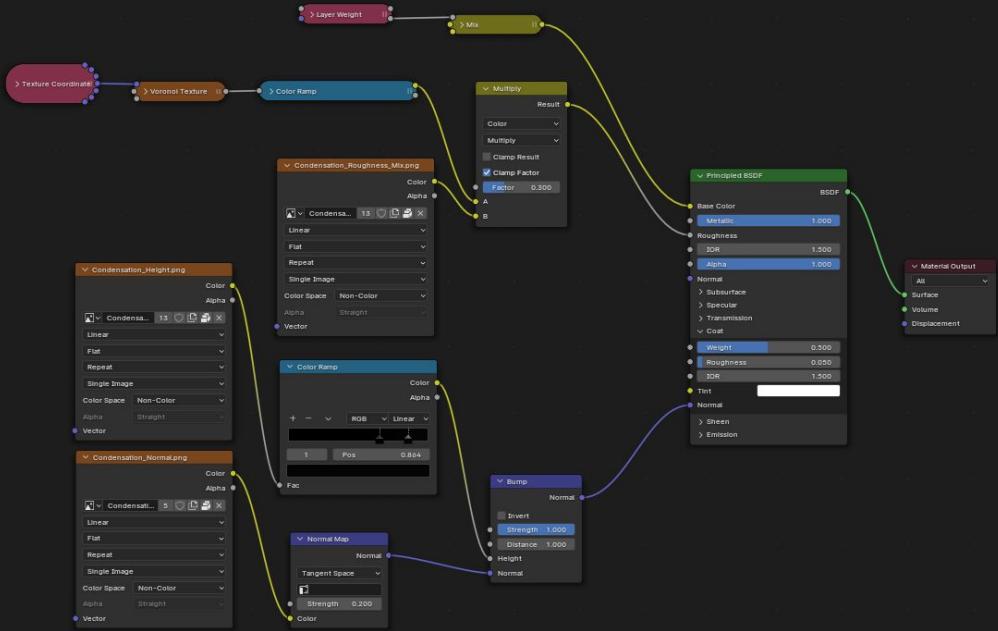
# Rain Drops

Adding displacement and normal mapping



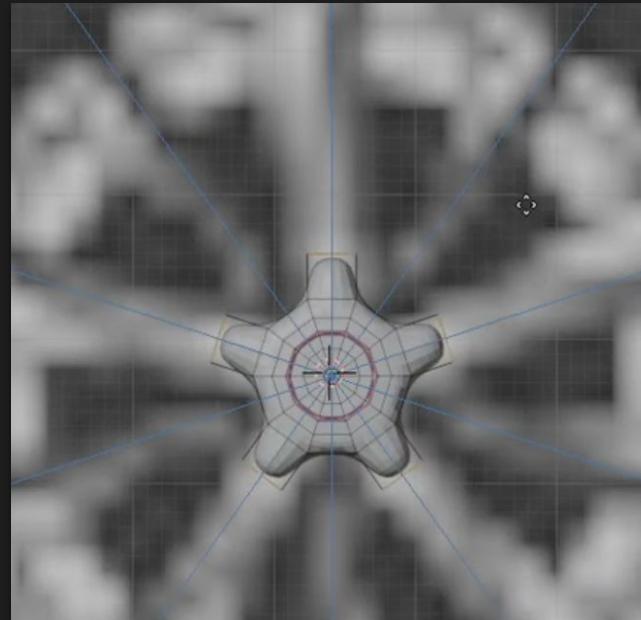
Height map needs strong *Color Ramp* to reduce strength of displacement

# Rain Drops



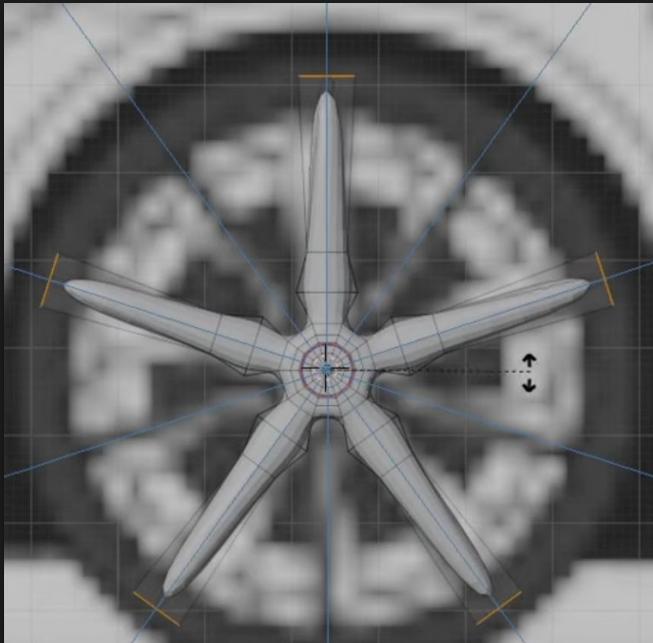


# Rims

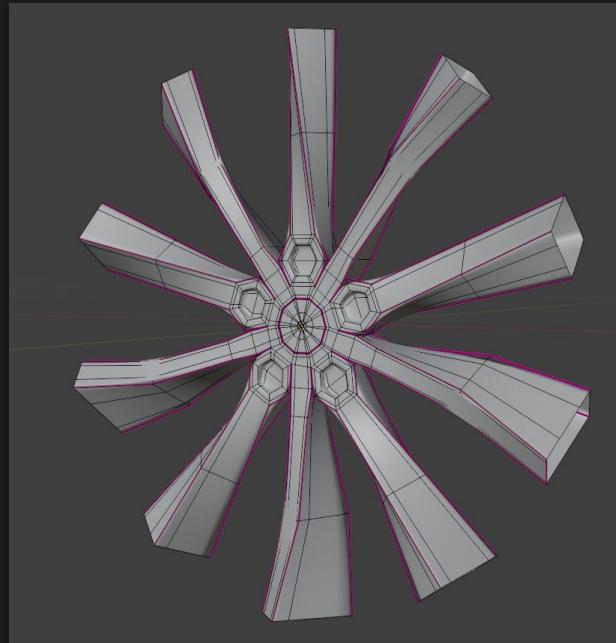


Extrude alternating faces of a cylinder along their normals

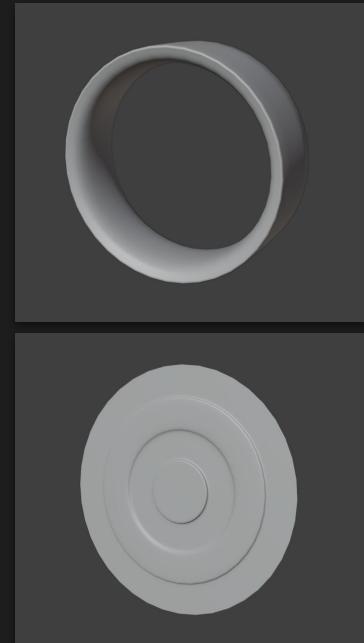
# Rims



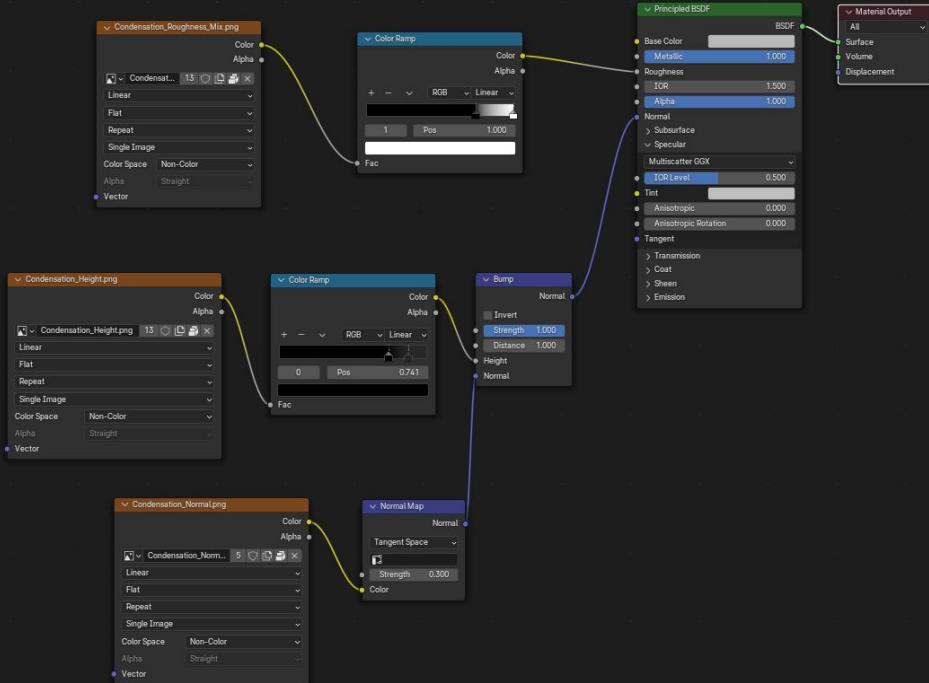
Rotate top faces of extrusion



Delete top faces and add crease

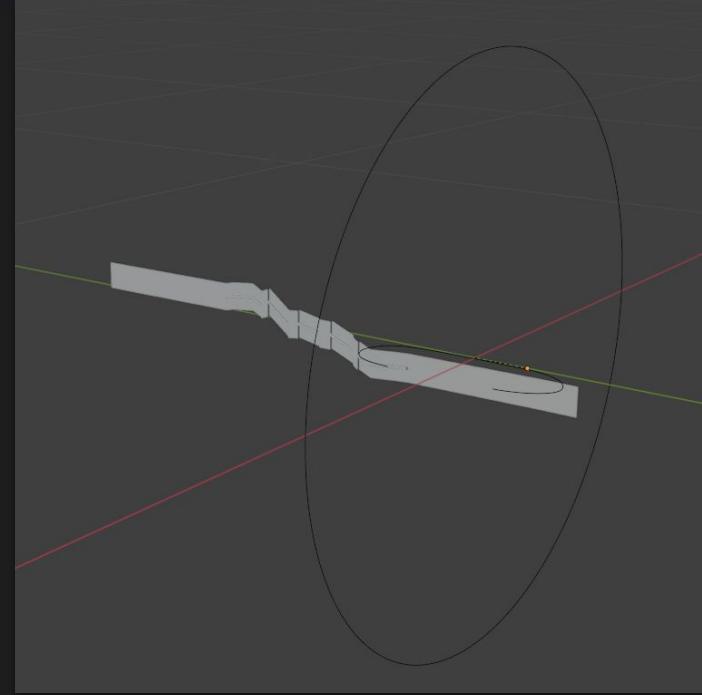


# Shading



Condensation shader applied to metallic material

# Tires



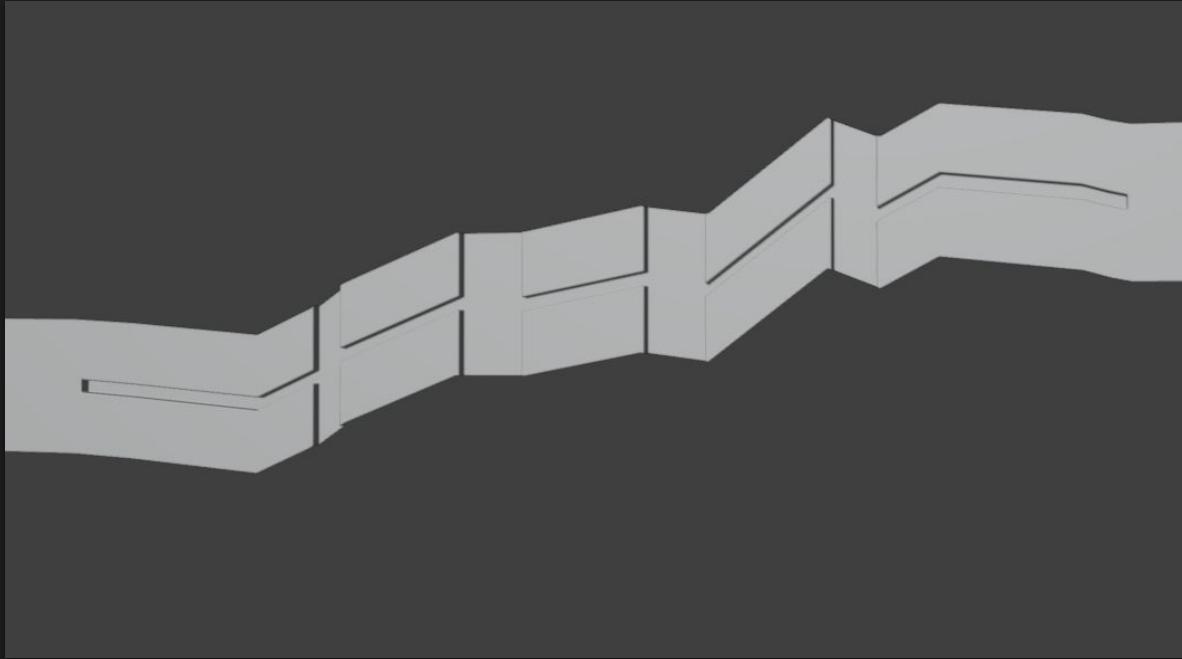
The model is made of: 1 plane, 1 *bézier curve*, 1 *bézier circle*

# Tires



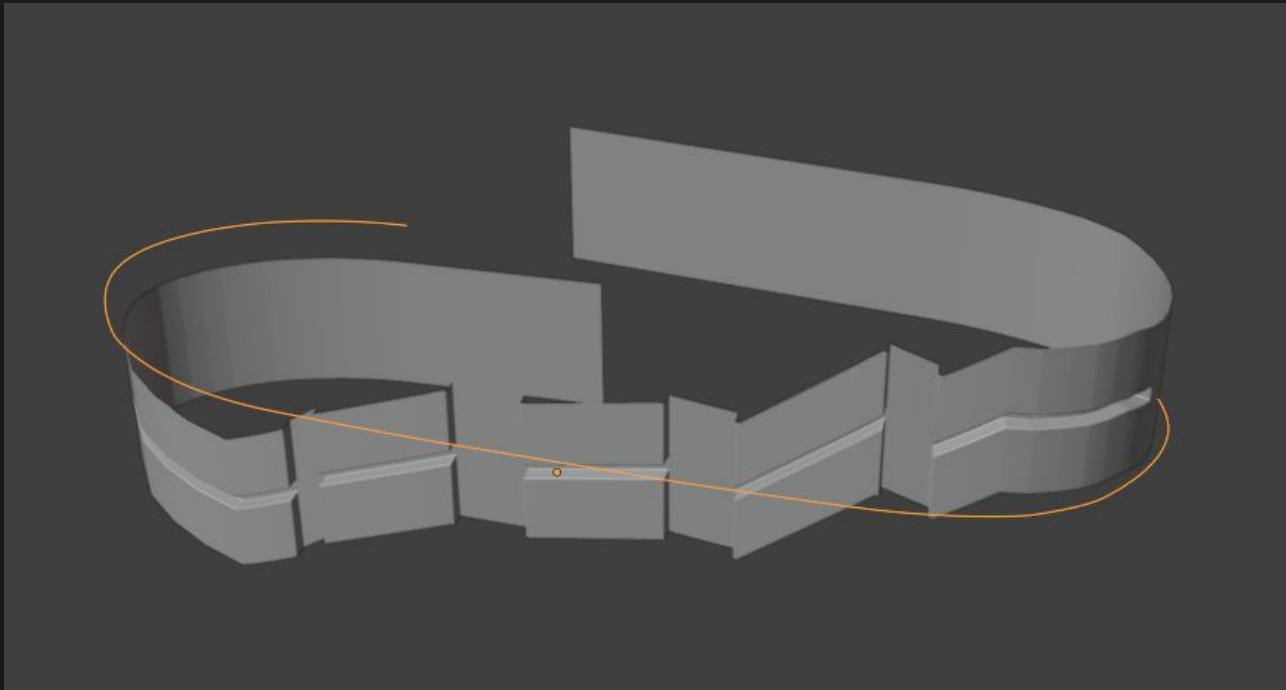
Following the tire pattern with pairs of segments

# Tires



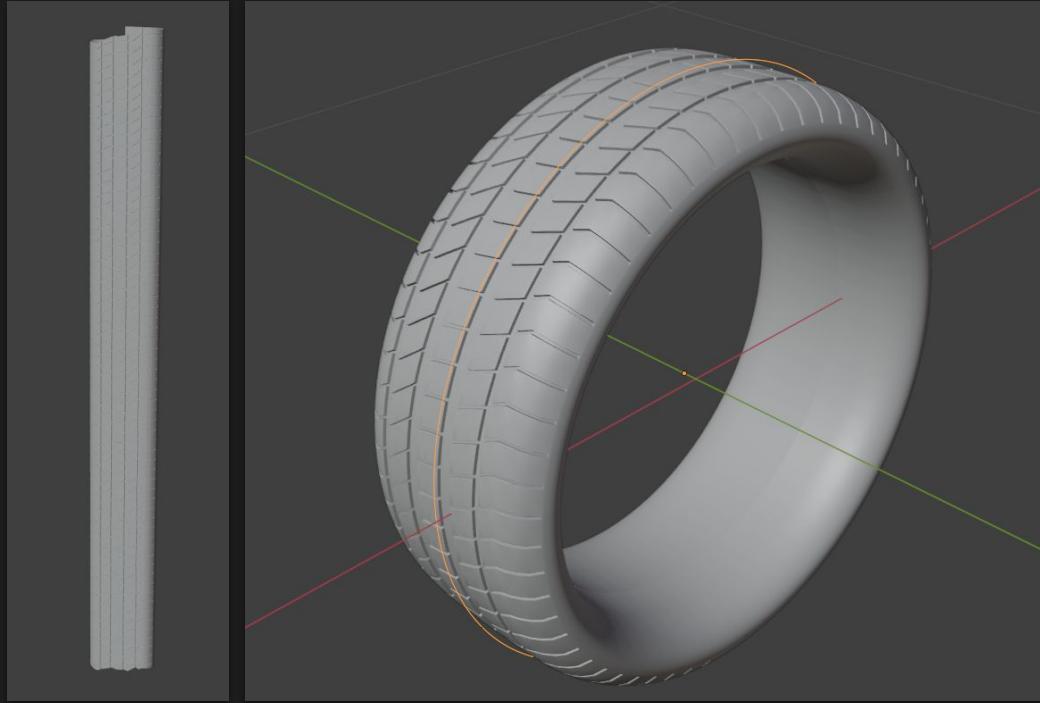
Connecting the segments and extruding to make tire pattern

# Tires



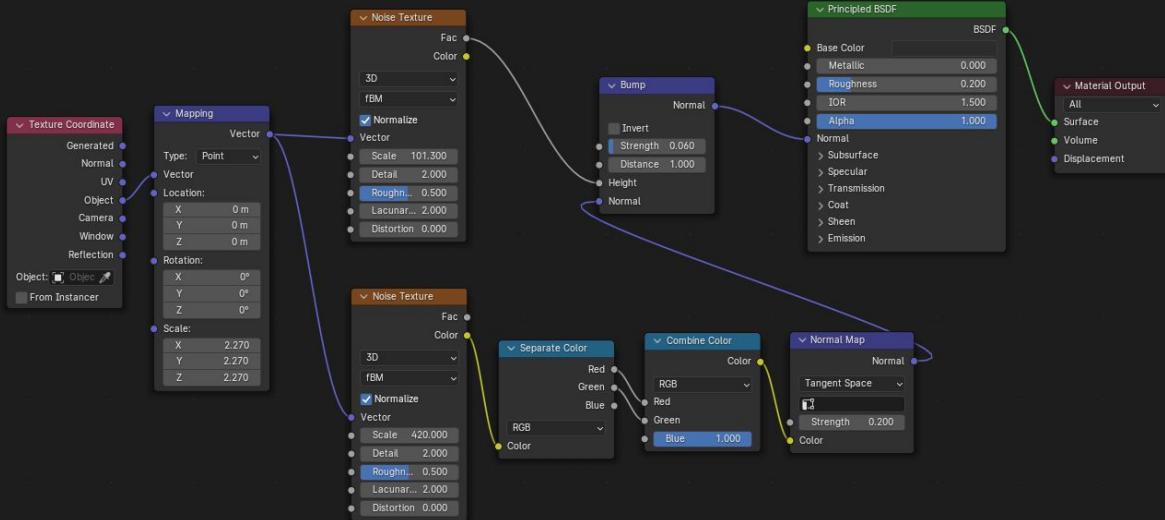
*Curve Modifier* to wrap pattern around a bézier curve

# Tires



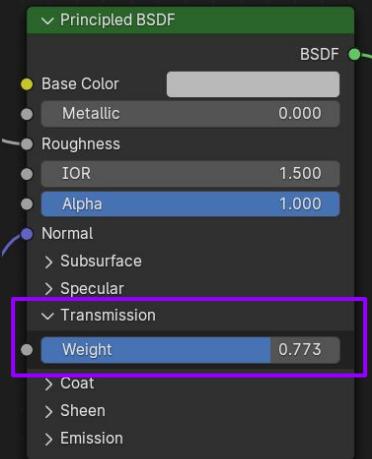
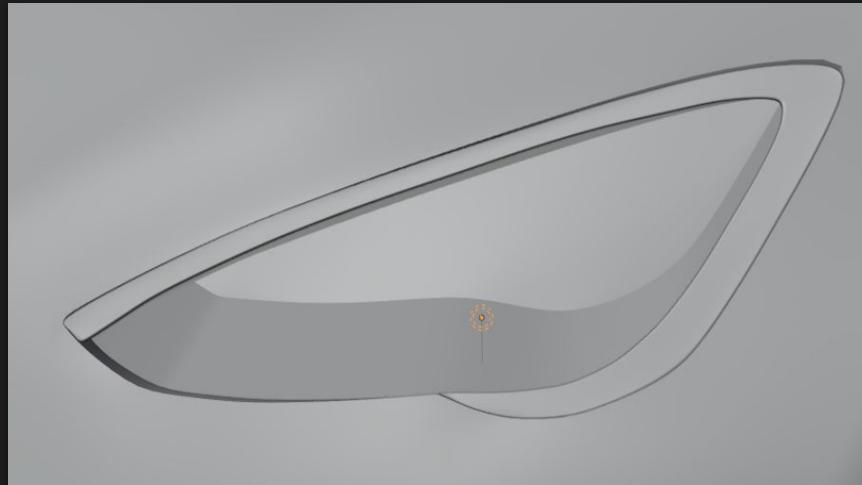
Repeat the pattern with an *Array Modifier* and wrap it around a circle with *Curve Modifier*

# Shading



Using *Noise Textures* to add displacement and bump mapping

# Headlights



Strong *Point Light* hidden behind semi-transparent material

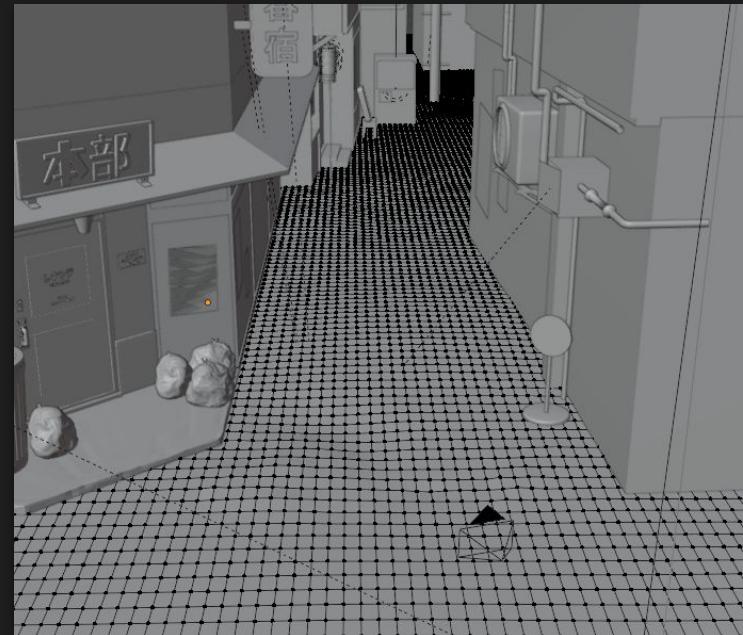
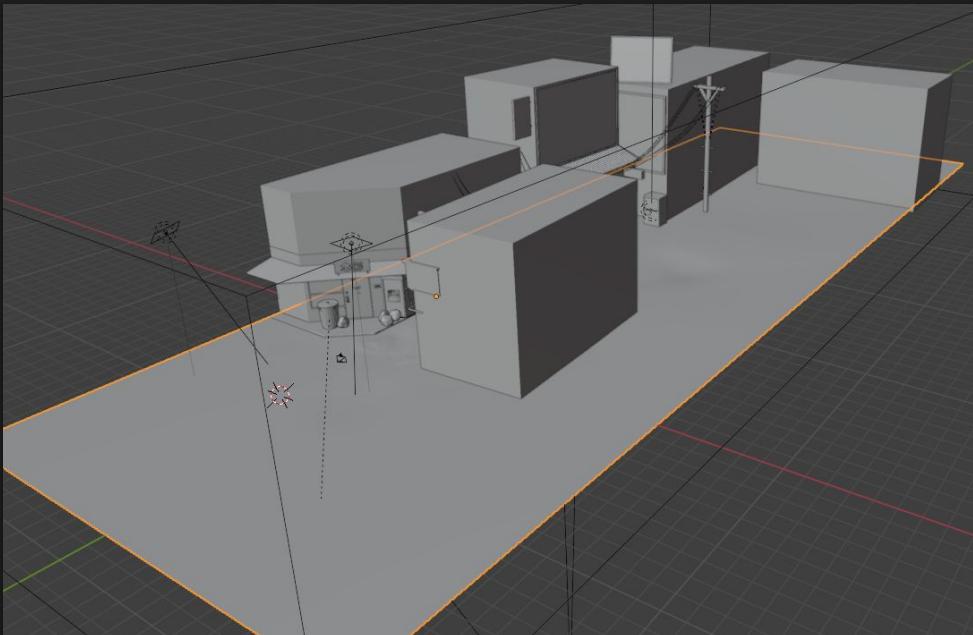
本部

# Street



# Modeling

Subdivided plane covering the whole scene



# Sculpting

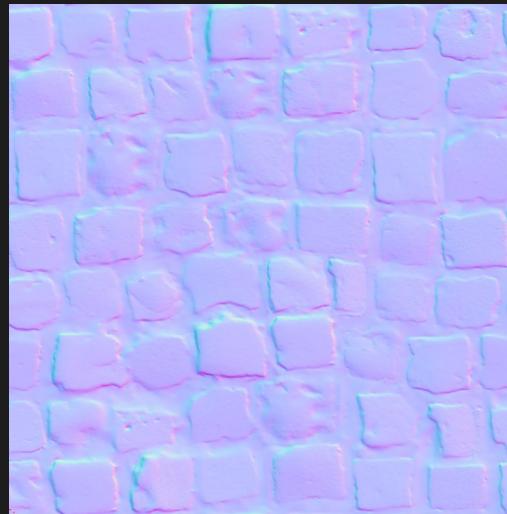


Using draw brush to create irregularities for added realism

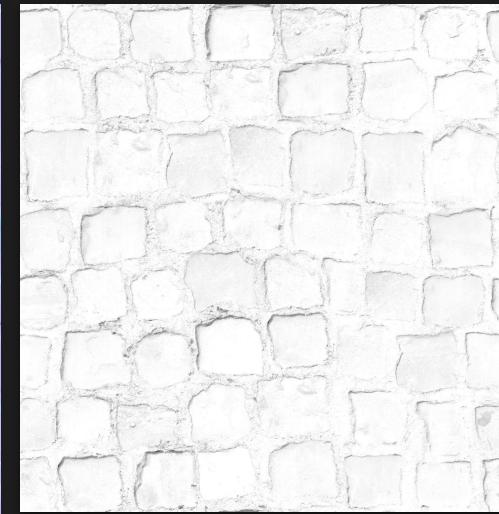
# Texture



Color

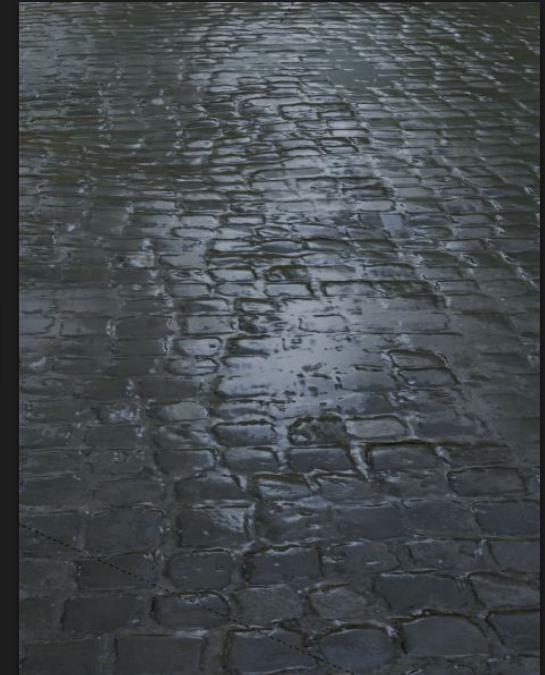
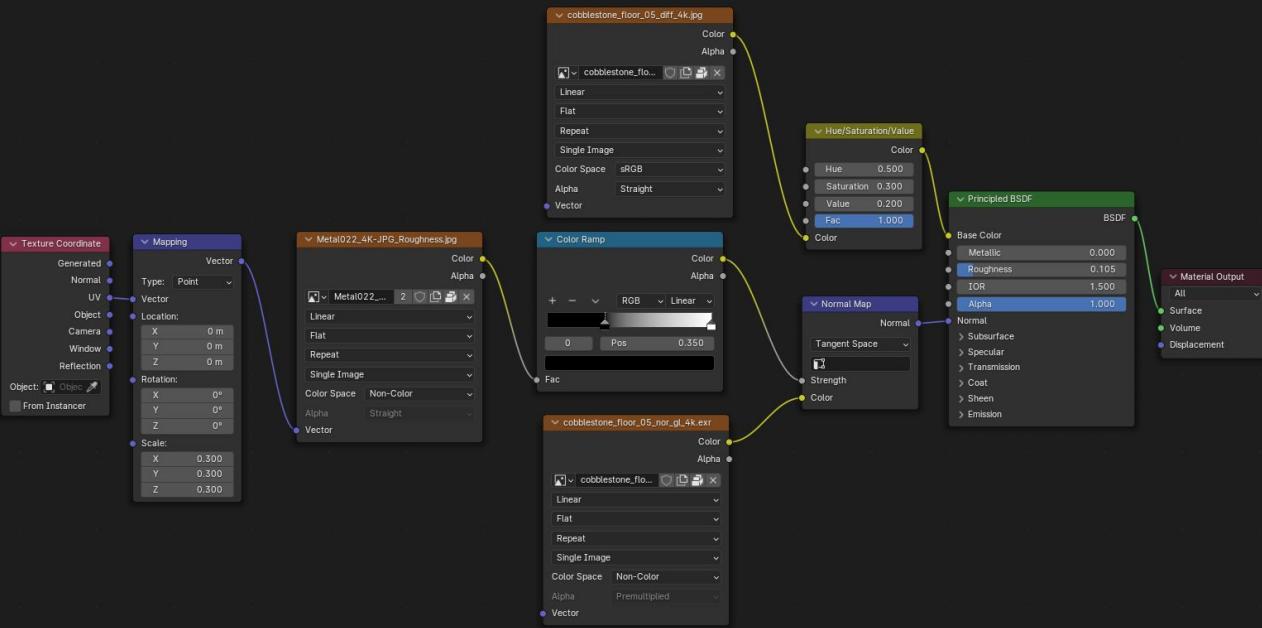


Normal map



Roughness map

# Shading



# Shading

Mask the normal map using a roughness texture to create wet look and puddles



<https://ambientcq.com/view?id=Metal022>

Mask applied to plane

Mask applied to normal map

A dark, atmospheric night scene of a city street. In the foreground, a car's hood and front grille are visible, reflecting some light. The background is filled with various neon signs and billboards in Japanese, including one that says "本部" (Honbu) and another for "APPORO". A large, glowing purple rectangular frame surrounds the central text.

# BUILDINGS

# Store



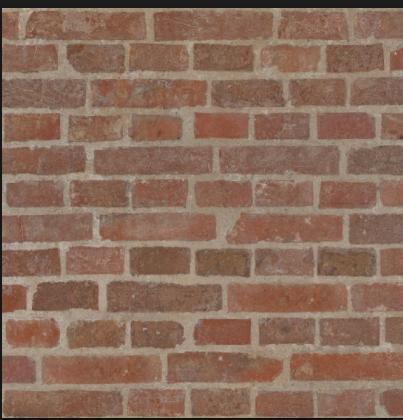
Modeled from a cube with *Scaling, Extrusion, Bevel, Loop Cuts*

# Textures

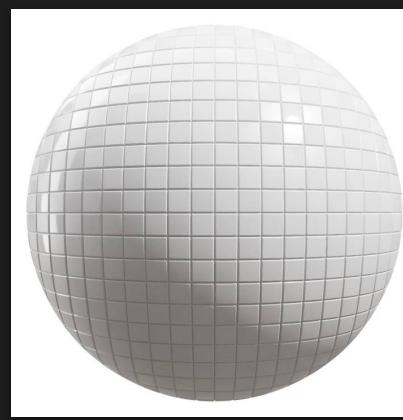
Wood



Old bricks



Ceramic Tiles



Rough Concrete



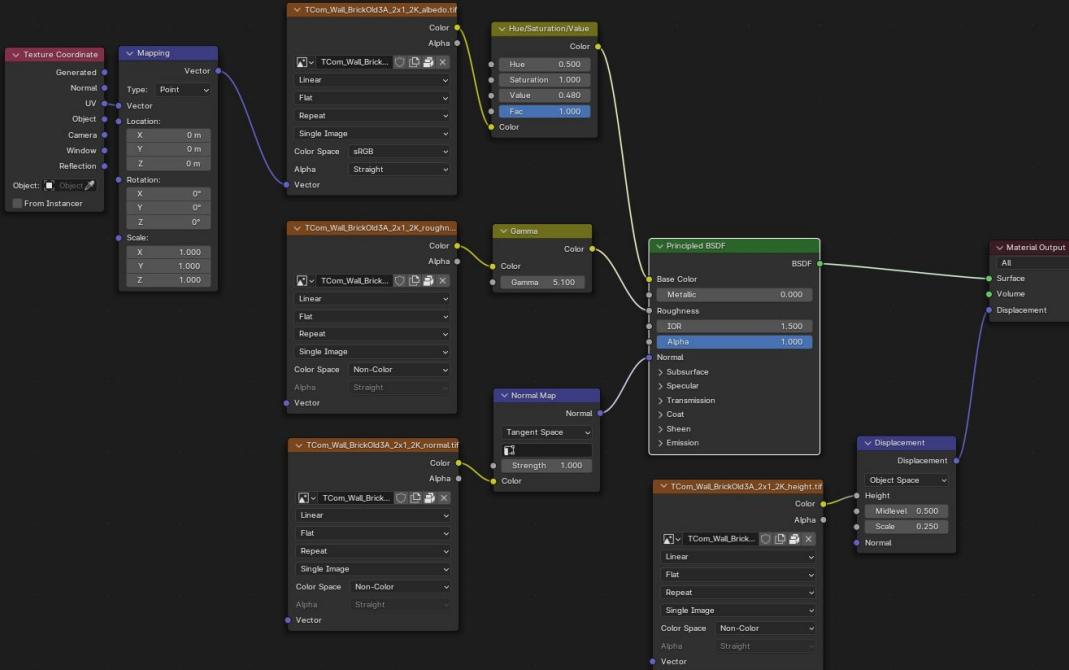
<https://www.textures.com/download/PBRO080/133114>

<https://www.textures.com/download/3DScans0742/140273>

[https://polyhaven.com/a/fine\\_grained\\_wood](https://polyhaven.com/a/fine_grained_wood)

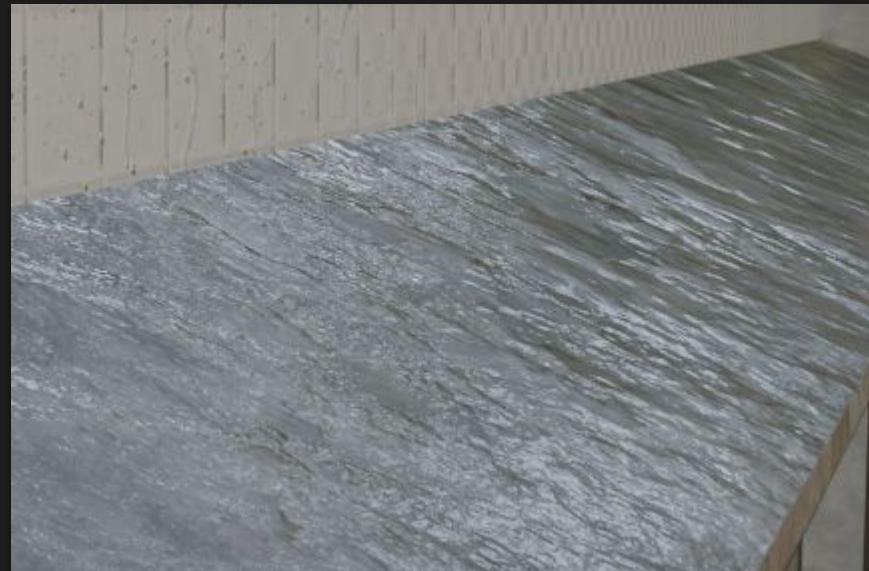
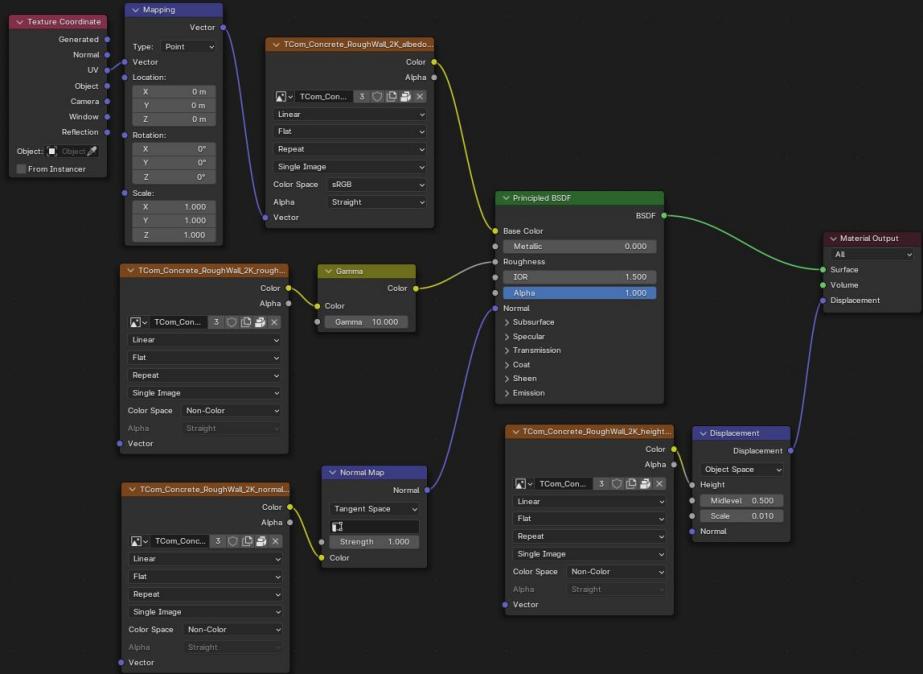
<https://www.cgbookcase.com/textures/white-tiles-02/>

# Bricks

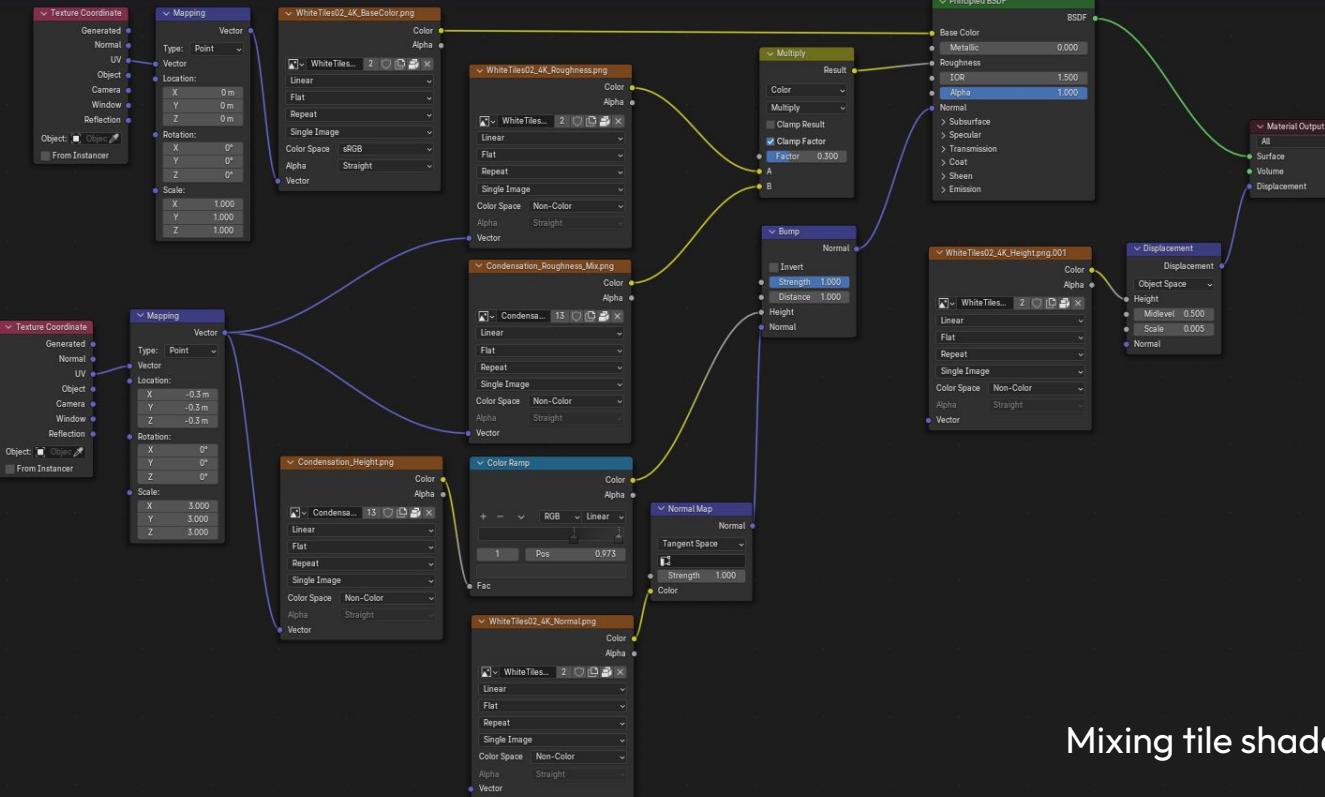


*Gamma Correction to increase roughness on bricks for wet look*

# Roof



# Ceramic Tiles



Mixing tile shader with condensation shader

# Shop windows

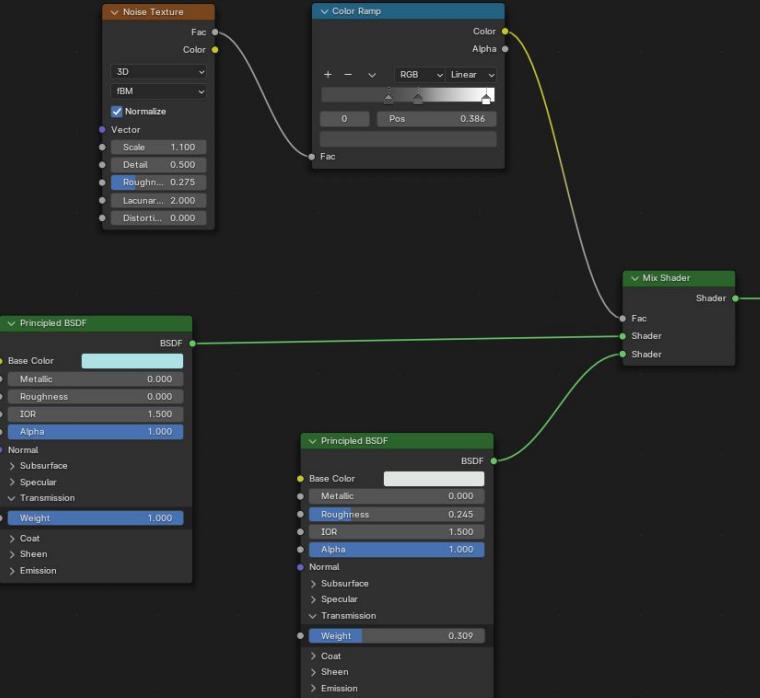


Dirt specs/imperfections



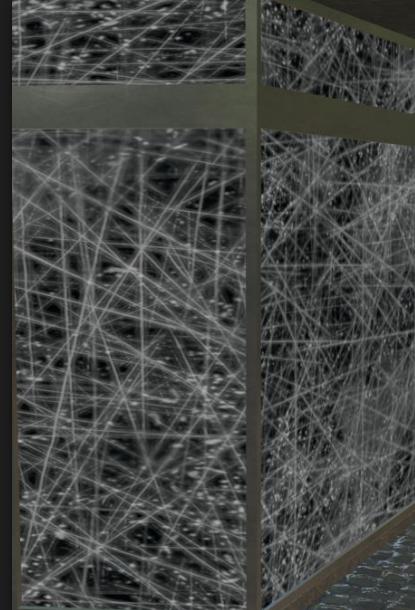
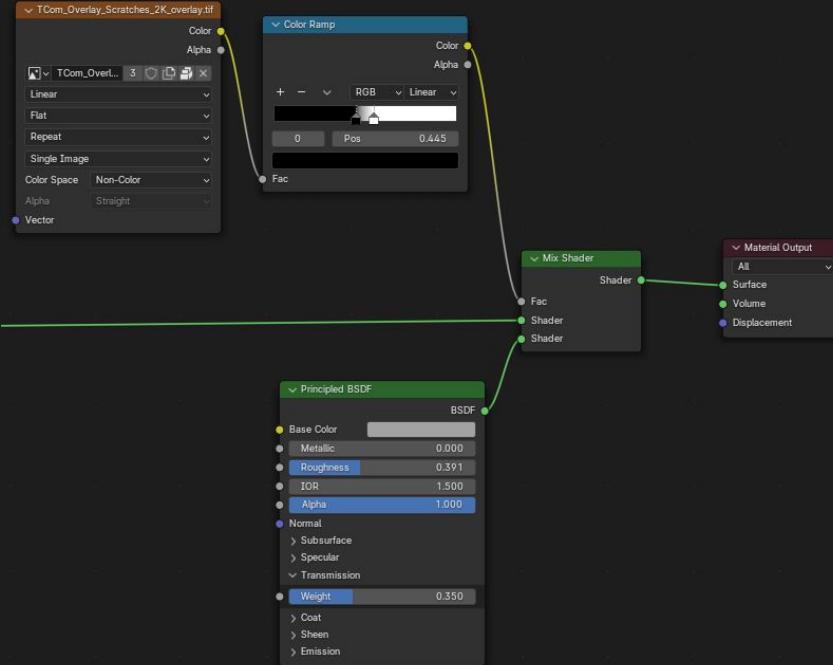
Opaque glass

# Shop windows



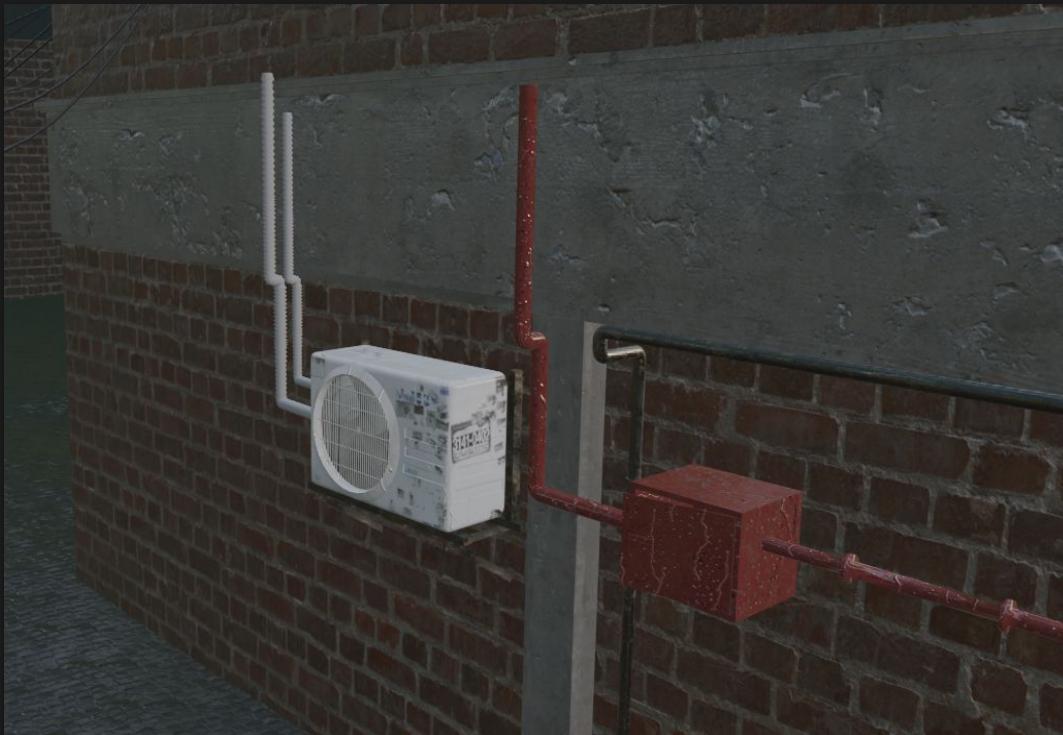
Mixing a transmissive material with an opaque one using noise texture as mask

# Shop windows



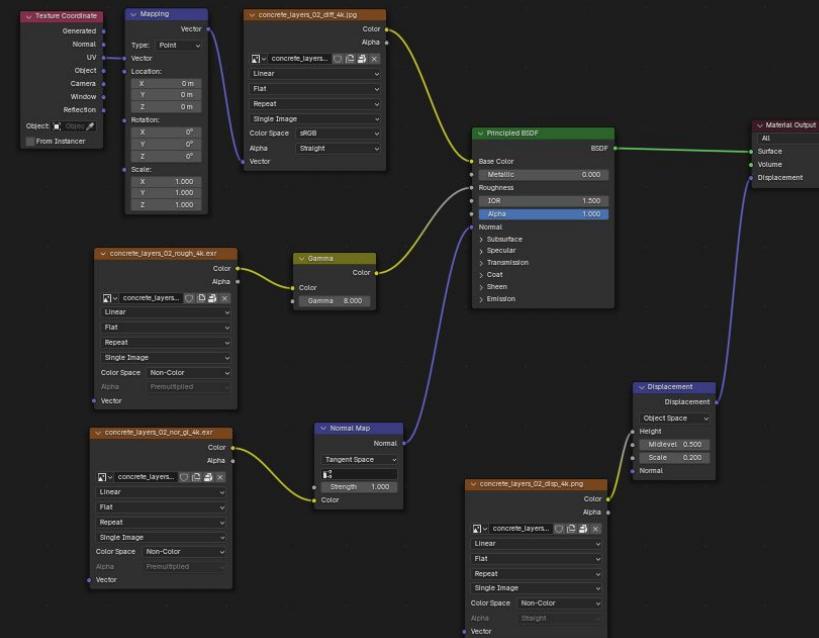
Scratch texture before and after *Color Ramp*

# Right Side Building



# Texture

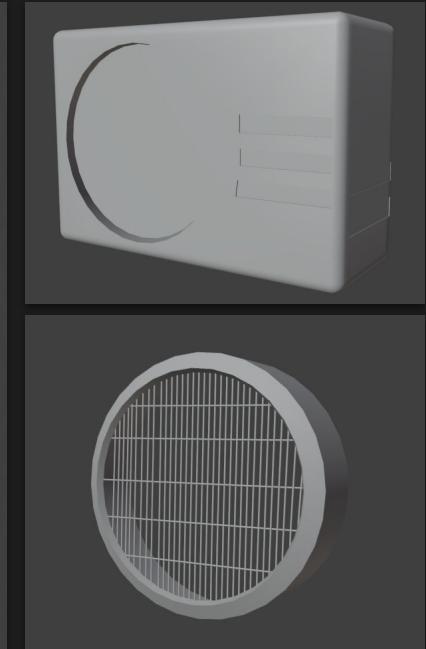
Same old bricks as the shop + layered concrete



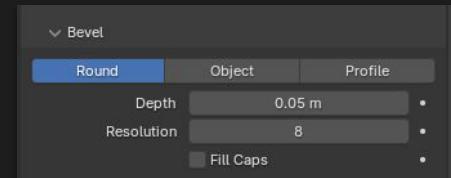
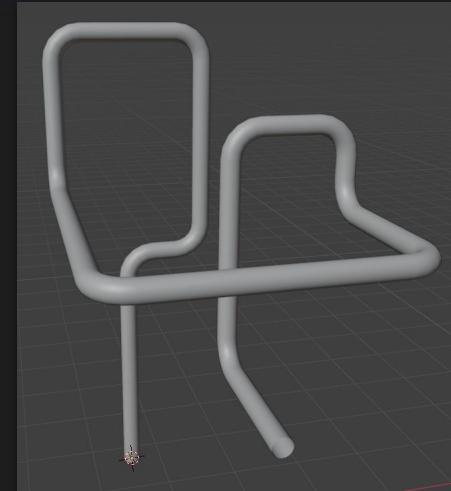
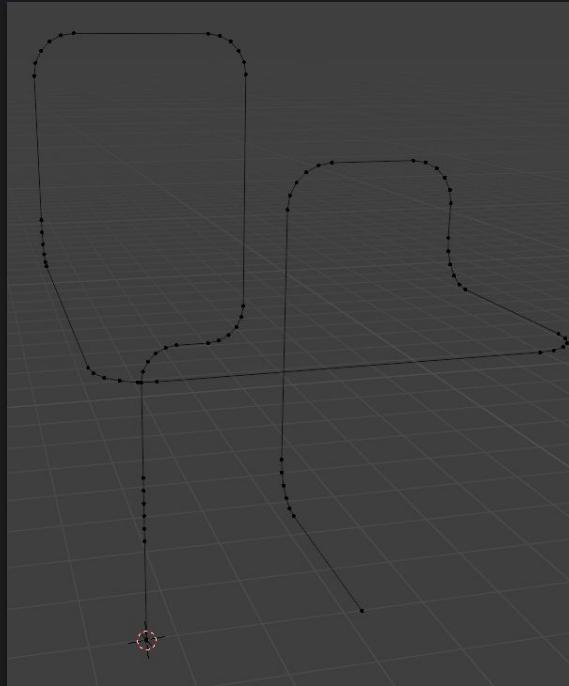
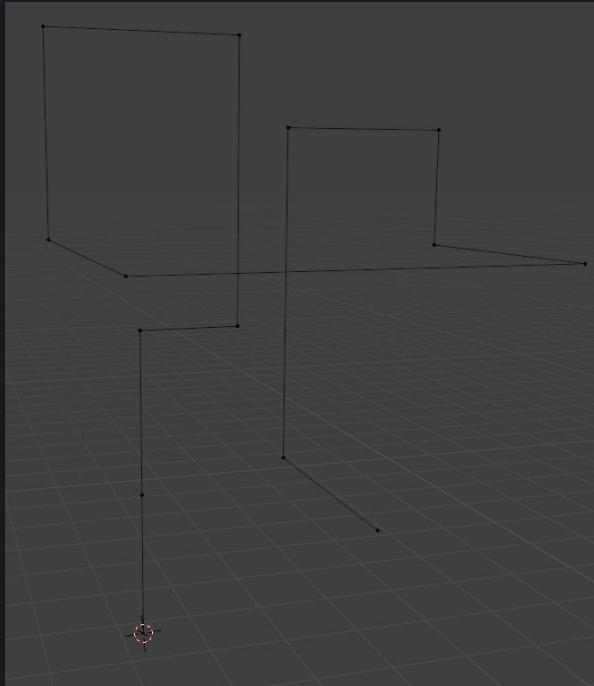
[https://polyhaven.com/a/concrete\\_layers\\_02](https://polyhaven.com/a/concrete_layers_02)

# AC unit

Modeled with a cube UV Unwrapped onto image of AC units



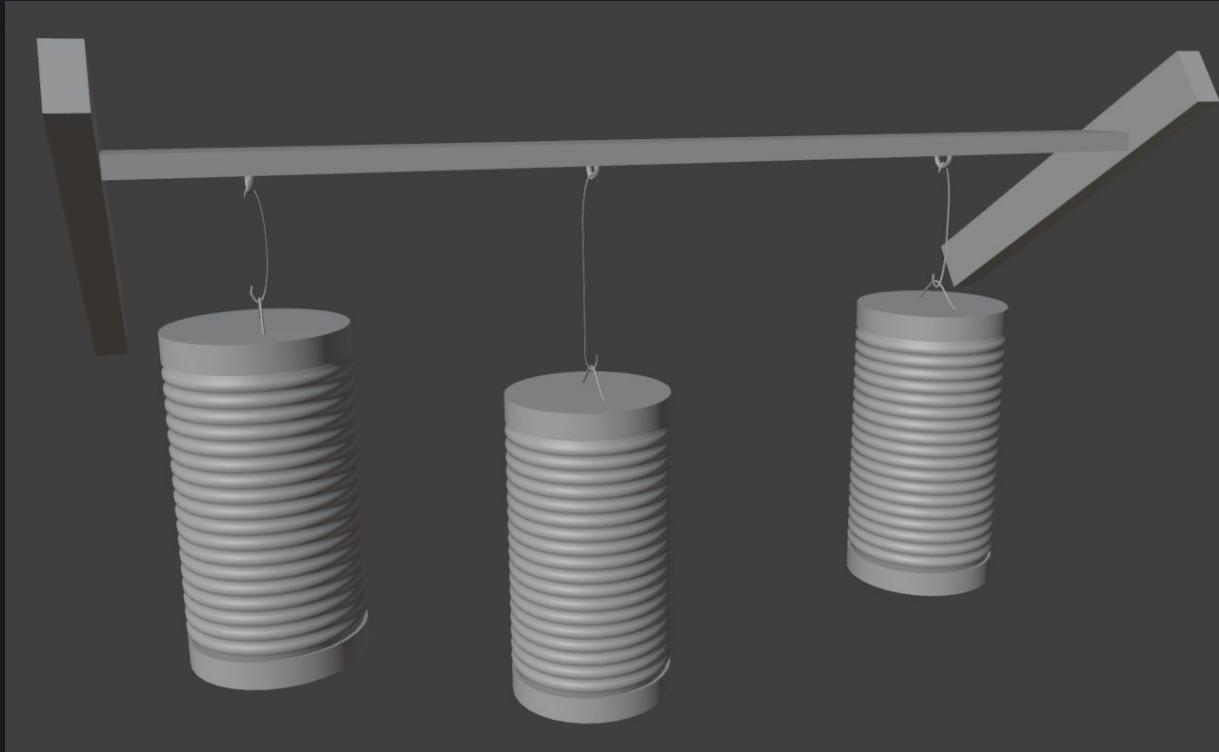
# Pipes



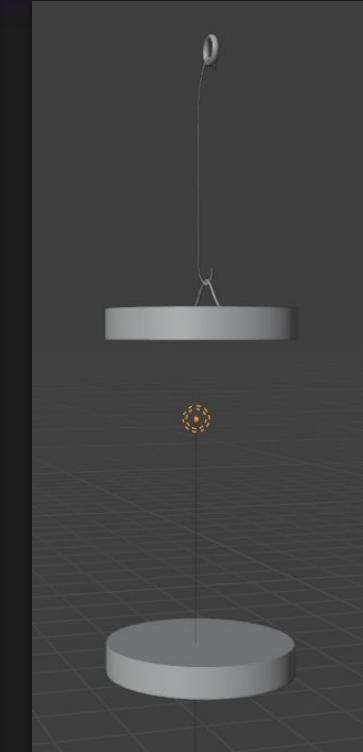
# Background shop



# Lanterns



Cylinders with alternating loop cuts scaled up and bezier curves for the hooks



Point light inside each

# Roll Up Door

The image shows a complex node setup in a 3D software's material editor, likely Blender's Node Editor. The goal is to create a highly detailed, layered metal texture for a roll-up door.

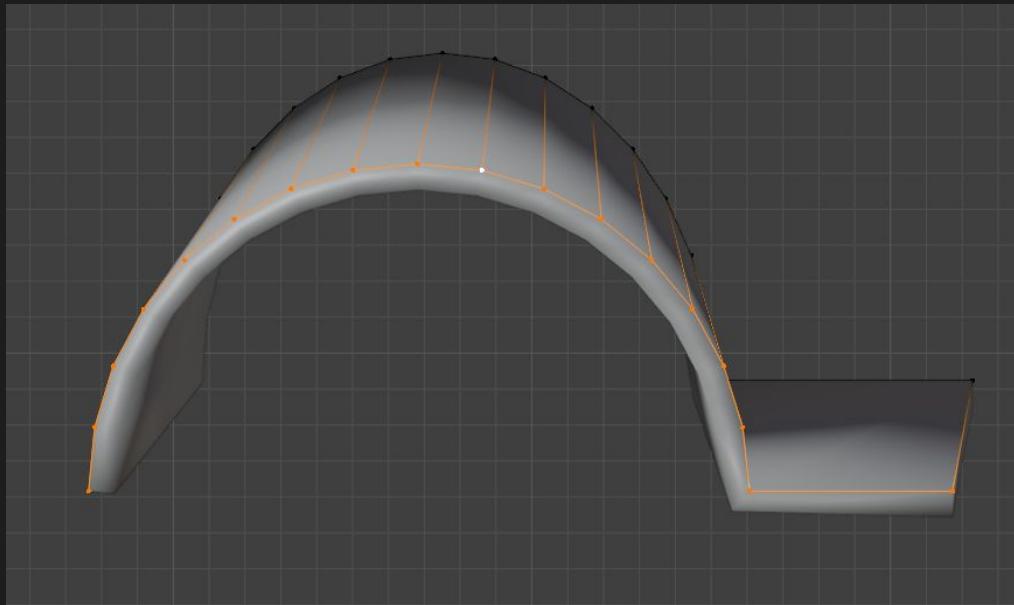
**Nodes and Connections:**

- Texture Coordinate:** Provides UV coordinates for the mapping.
- Mapping:** Converts UV coordinates into a Vector (Point).
- TCom\_Meta\_Rollu...\_d\_2x1\_2K\_albedo.tif:** An image node for the base color. It has a "Fac" input from a Hue/Saturation/Value node.
- Hue/Saturation/Value:** A color correction node with Hue: 0.500, Saturation: 0.500, Value: 1.000, and Fac: 1.000.
- TCom\_Meta\_Rollu...\_x1\_2K\_roughness.tif:** An image node for roughness.
- Principled BSDF:** The primary light scattering node. It uses the albedo from the image node and the roughness from the image node. The Alpha input is set to 1.000.
- Normal Map:** A normal map node that takes a Color input from a TCom\_Meta\_Rollu...\_d\_2x1\_2K\_normal.tif image node and outputs a Normal vector to the Principled BSDF node.
- Displacement:** A displacement node that takes a Color input from a TCom\_Meta\_Rollu...\_d\_2x1\_2K\_height.tif image node and outputs Height, Midlevel, Scale, and Normal values to the Principled BSDF node.
- Material Output:** Outputs the final material to the scene.

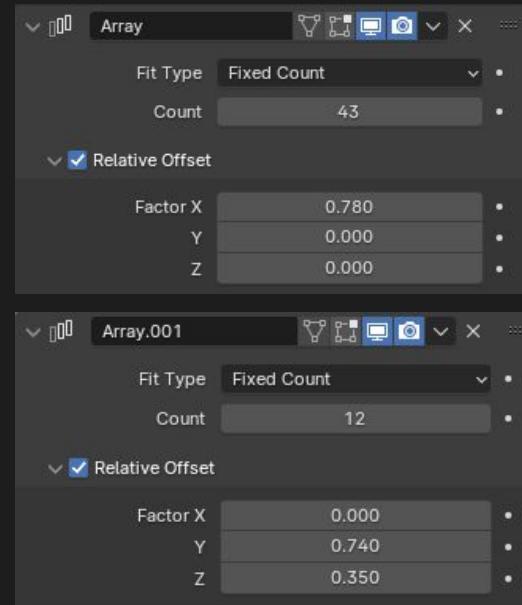
**Result:** A sphere in the 3D view showing the final result. The sphere exhibits a highly detailed, layered metal texture with visible vertical ridges and grooves, simulating the appearance of a roll-up door.

<https://www.textures.com/download/3DScans0444/133461>

# Roof



Semicircle with 1 extruded vertex, then extruded for depth



Repeat tiles with *Array Modifier*



# SIGNS & BILLBOARDS

# Billboards



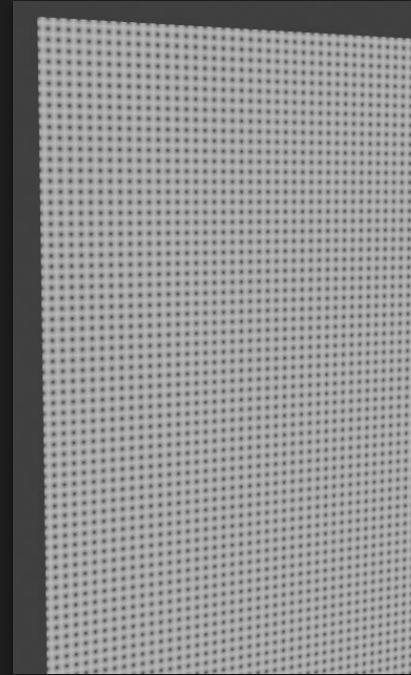
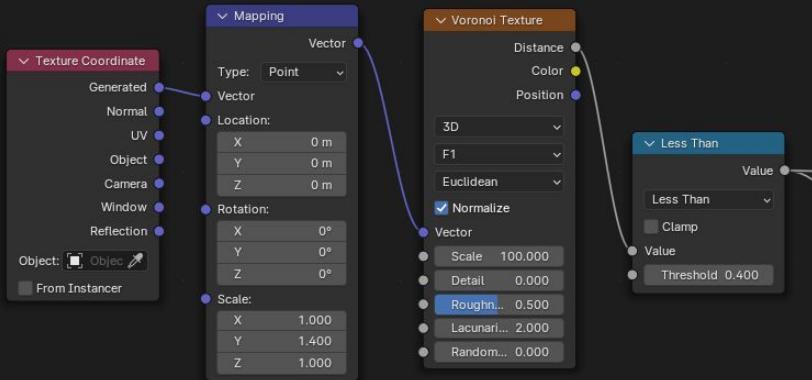
Images applied to a plane, inserted into a metal frame

# LED Screen Effect

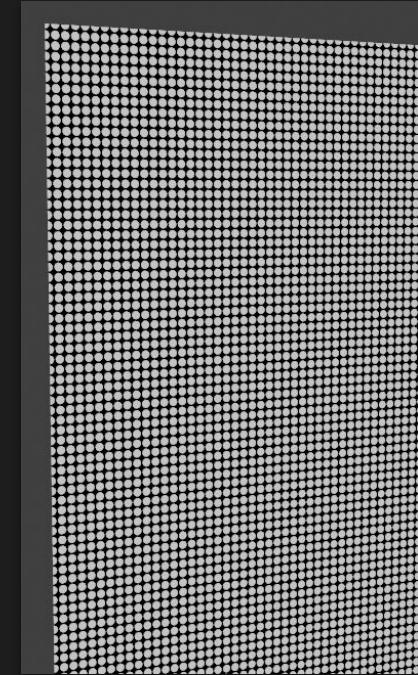


Close-up shot

# LED Screen Effect

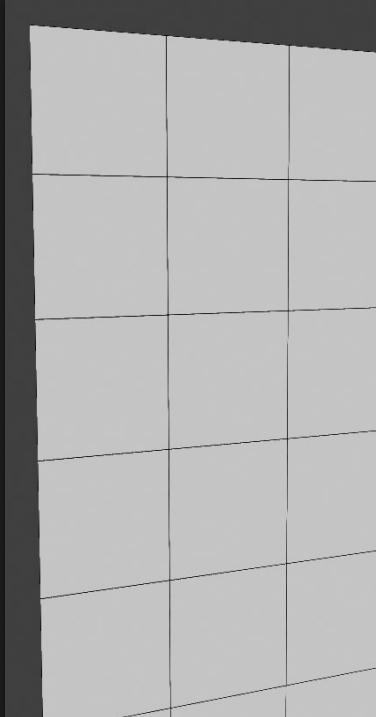
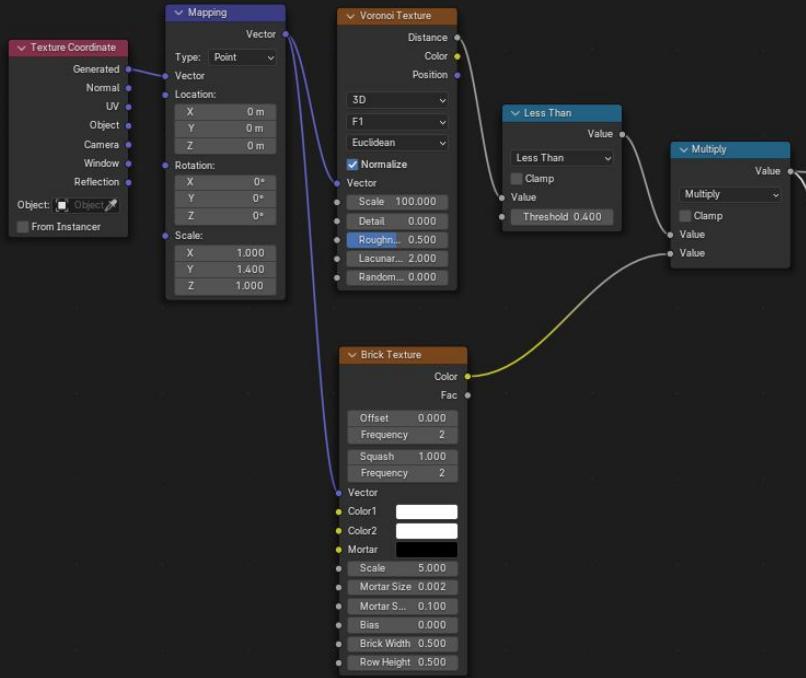


Circular Voronoi Texture

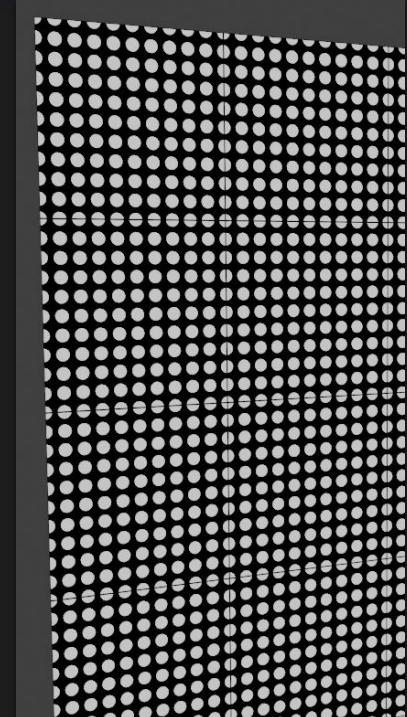


Thresholding to create “pixels”

# LED Screen Effect

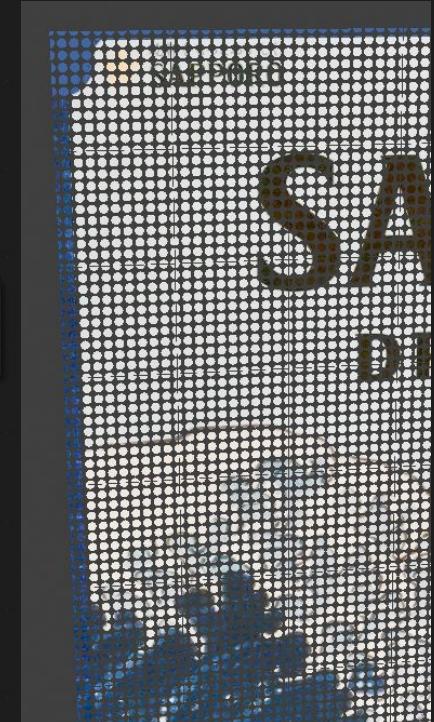
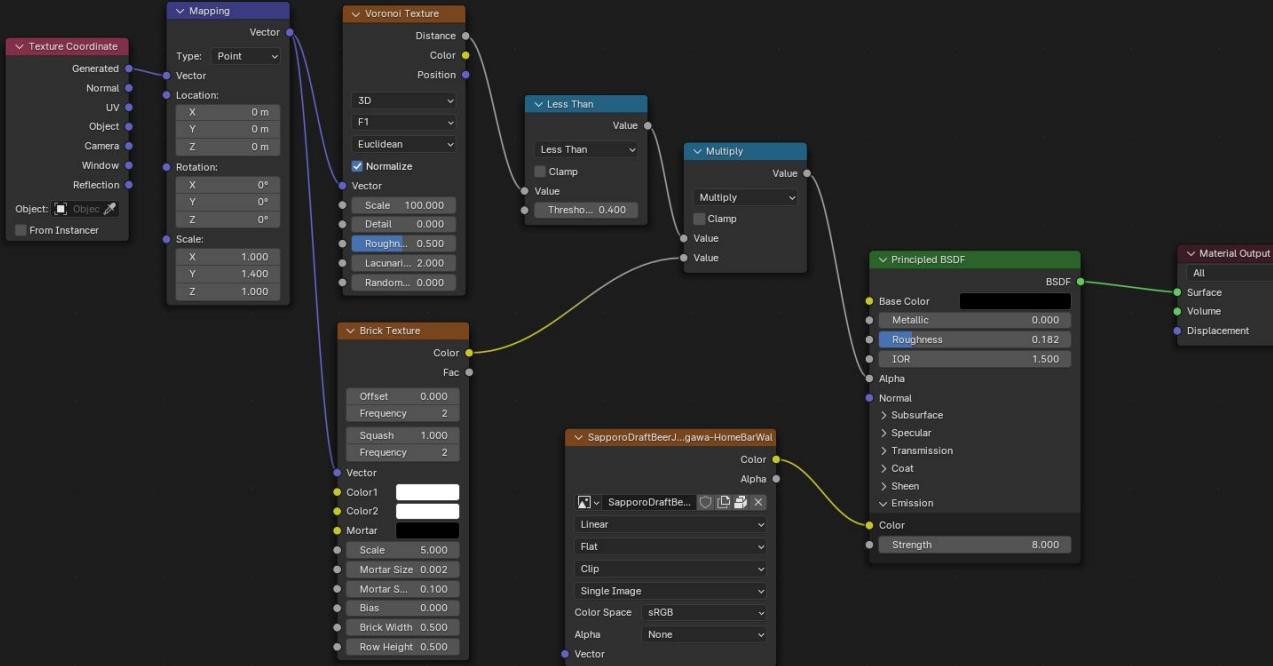


*Brick Texture*



*Bricks multiplied with Voronoi*

# LED Screen Effect



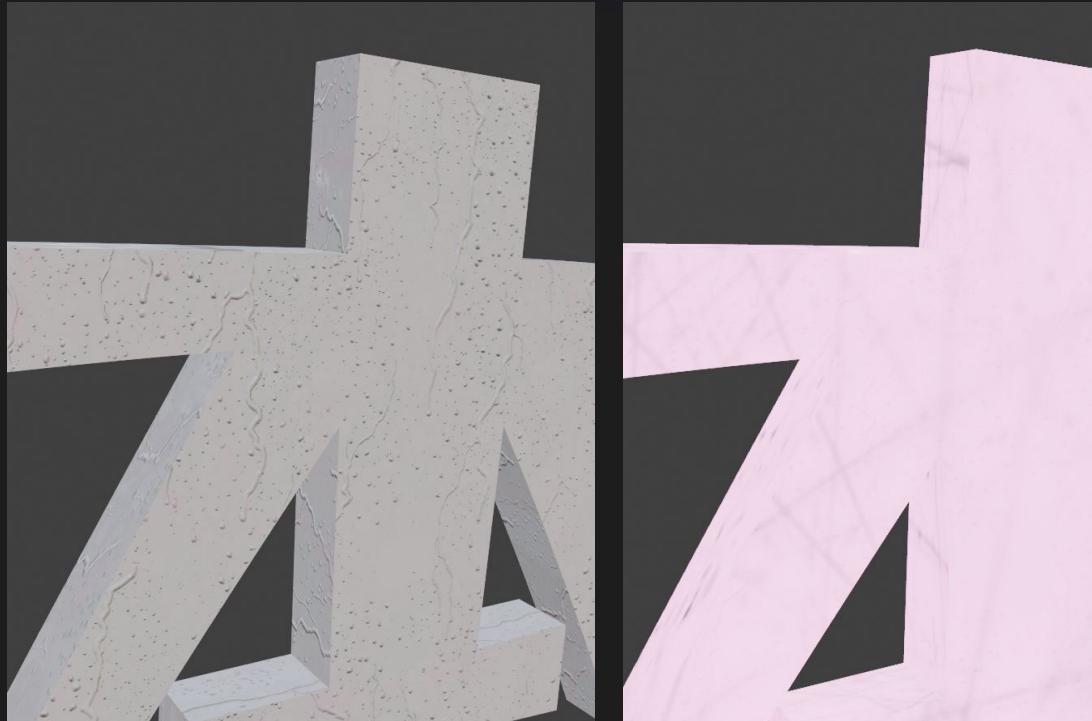
Use image as input for emission color

# Signs



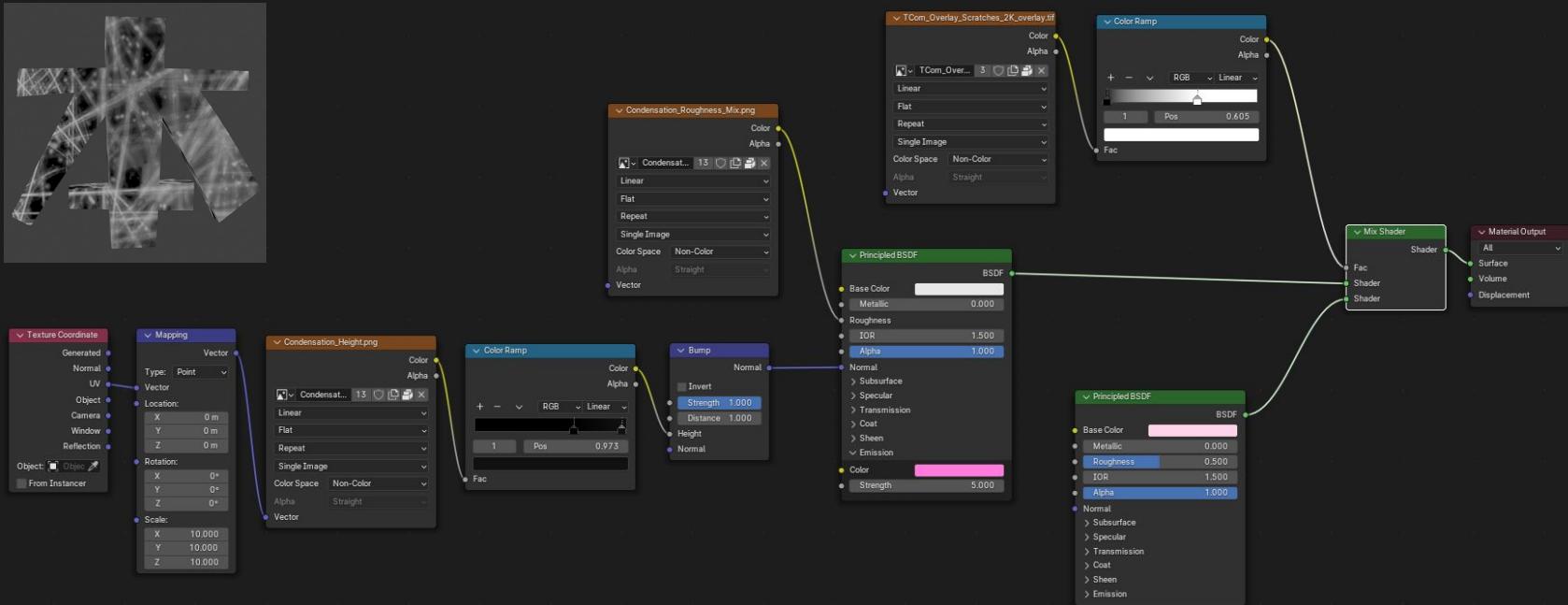
Modeled using an extruded *Text* object

# Signs



Condensation + marks and scratches

# Signs

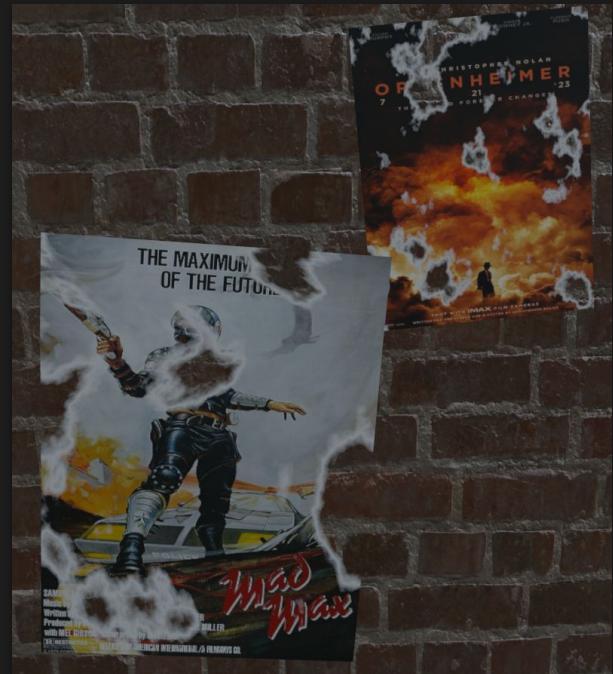
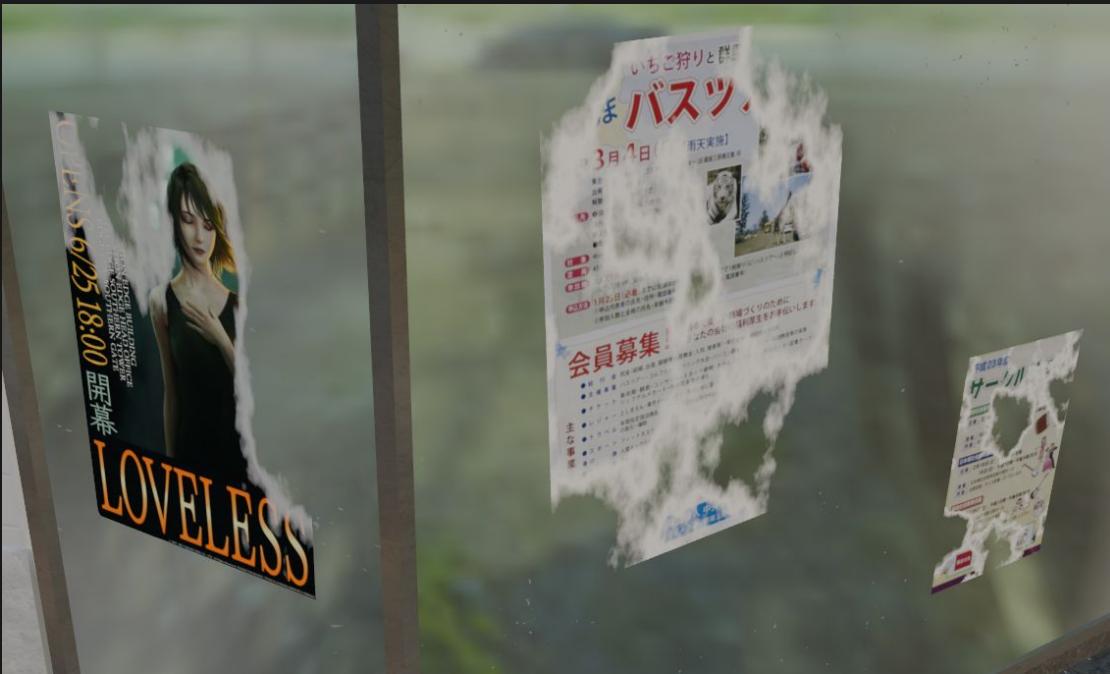


Emissive material with condensation + non-emissive material where scratches are



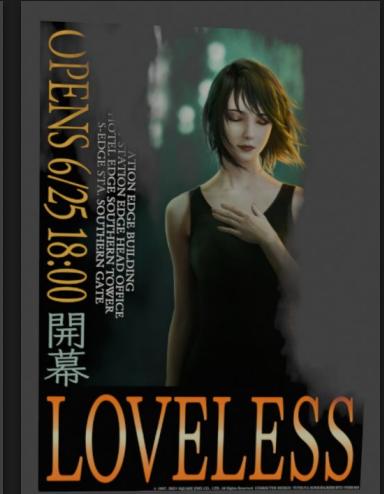
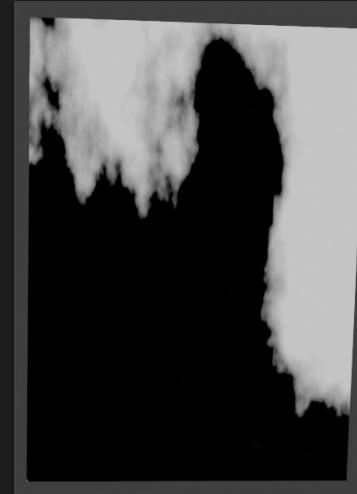
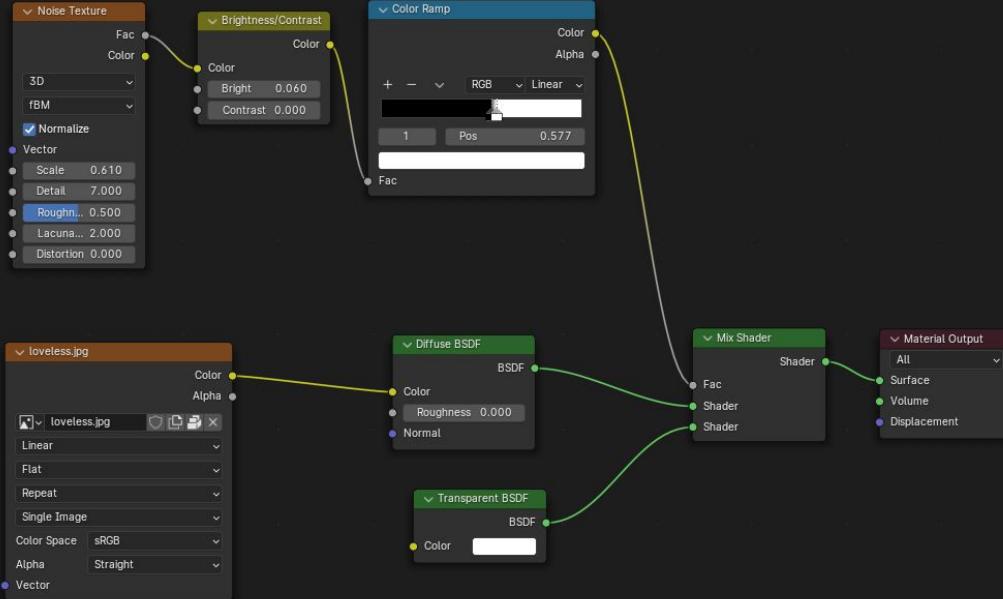
# OTHER MODELS

# Posters



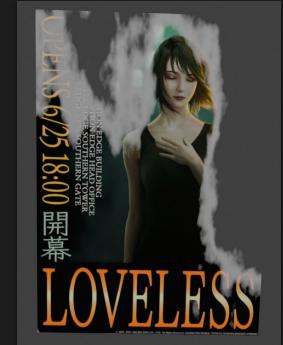
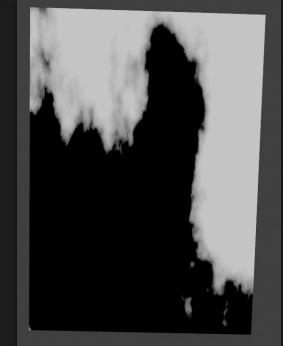
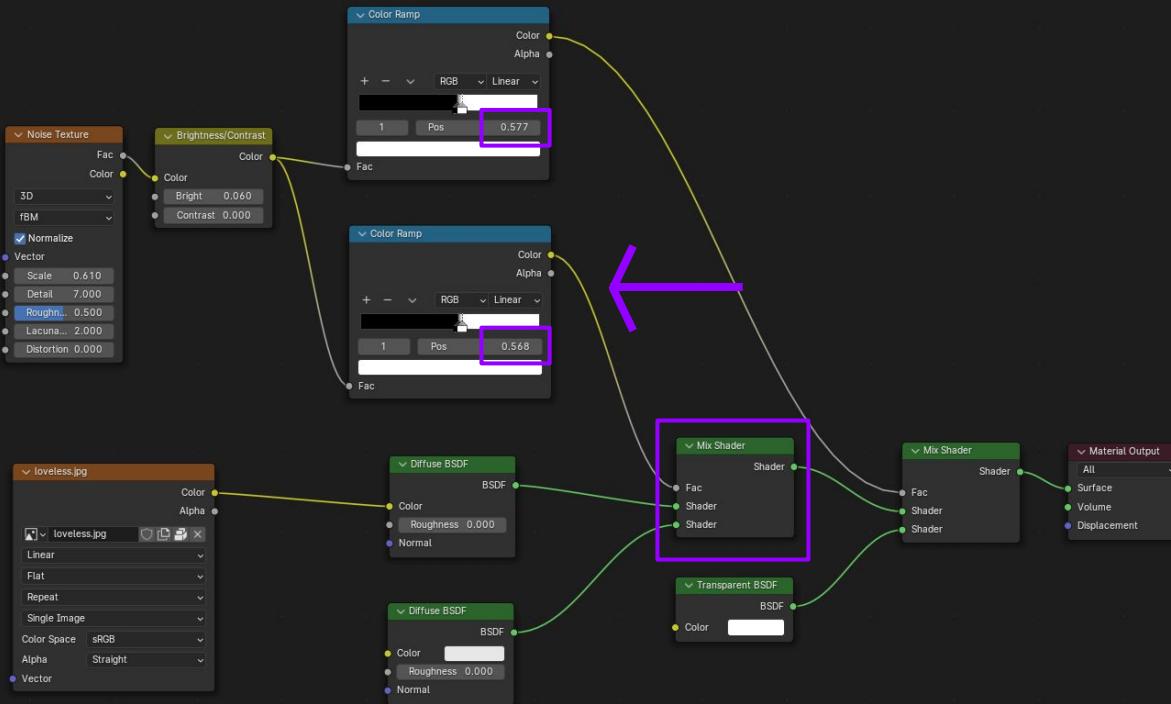
Images of movies/advertisements mapped onto a plane

# Posters



Mix a transparent shader with the poster image to simulate missing areas

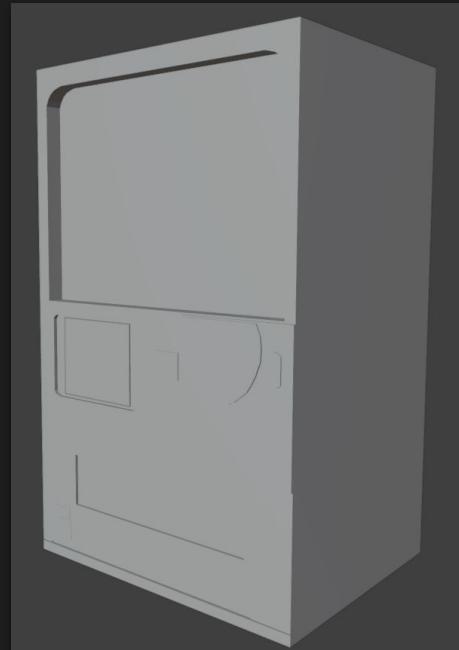
# Posters



Using the same *Noise Texture*, offset the previous mask in a new *Color Ramp* to create paper rips

# Vending Machine

UV unwrapping cube onto vending machine image, then adding minimal detail



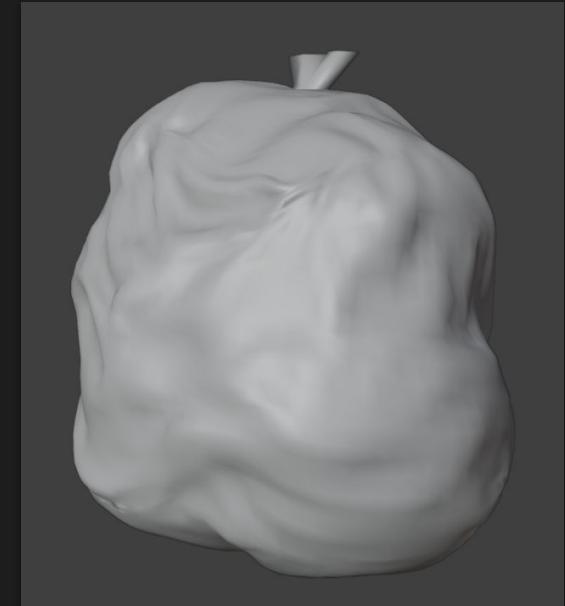
# Trash



Create random objects and join them together



*Shrinkwrap a cube to the lump*



*Sculpt it with *Cloth Brush**

# Trash Can

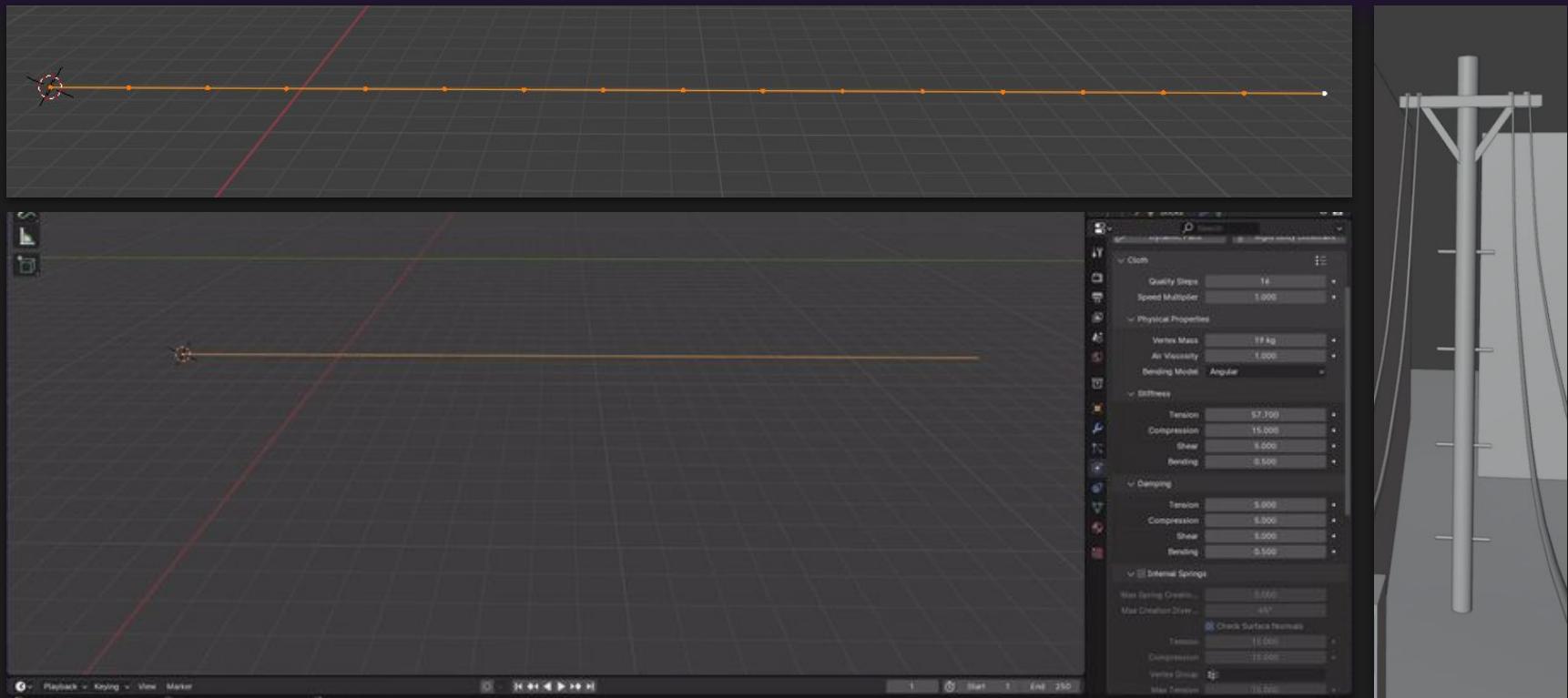


# Road Sign



<https://www.textures.com/download/SignsParking0114/113385>

# Cables



Apply *Cloth Modifier* to subdivided line, then convert it to curve and increase bevel depth



# LIGHTING

# Lighting



Signs and billboards

+

3 area lights





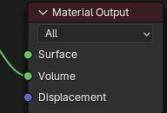
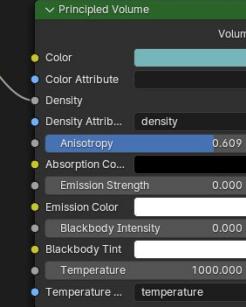
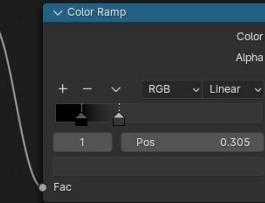
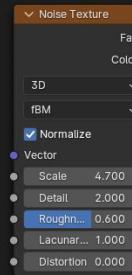
No additional lighting



+ Area lights

# Fog

Softens lights and propagates them further in the scene





No fog



+ Fog



A dark, atmospheric night scene of a city street. In the foreground, a car's hood and front grille are visible, reflecting some light. Above the car, a large white rectangular area contains the text "POST-PROCESSING". This white area is enclosed within a thick, glowing purple rounded rectangle. The background shows a street with various signs in Japanese, including "本部" (Honbu) in large letters, "APPORO BEER", and "LOVELESS". There are also some smaller signs like "OPEN" and "LOVELESS". The overall atmosphere is moody and urban.

# POST-PROCESSING



Original render



+ brightness, + contrast



Original render



+ brightness, + contrast

# Render details

- Render time: ~7 mins
- GPU: Titan T4 (Google colab)
- RAM usage on GPU: 5.8/15.0 GB
- Engine: Cycles, 500 samples (+denoising)
- Camera focal length: 25mm (wide angle shot)

# Resources

- Textures
  - [textures.com](http://textures.com)
  - [ambientcg.com](http://ambientcg.com)
  - [polyhaven.com](http://polyhaven.com)
- Inspiration: [Moody Street in Blender - Youtube](#)
- Car workflow: [Car in Blender - Youtube](#)

No plugins or imported 3D models were used