ProtoGrid Pro - How To Use

Customizable Grid Shader for Blockout and Prototyping

ShowCase Video : https://www.youtube.com/watch?v=Rugf2MGPobg

Thank you for buying and using my Asset. I hope you enjoy it :)
Feel free to review and rate it on the asset store if you like it.
If you have any problems or questions, feel free to send me a message to find a solution.

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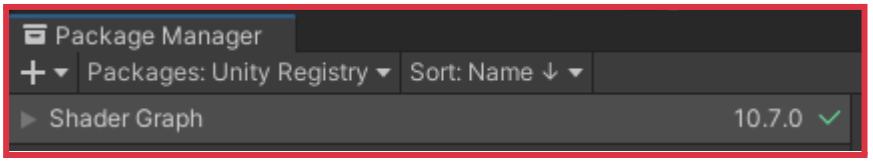
SETUP

1. Supported Versions

URP & HDRP : *2020.3.22* or Higher
Built In : *2021.3.11f1* or Higher
(it is possible to use it in a previous version of Unity but I don't recommend it because the Shader Graph is not always stable in previous versions and it can create errors).

2. How to Setup

For the **Built It** version, you must have **Shader Graph** in your project to start. You can install it via the **package manager**.



If you can't find it, make sure you are using Unity version 2021.3.11 or higher and that you are using your render pipeline folder.

For the **URP** and **HDRP** version, you have **nothing else** to do after **downloading the package from the package Manager**. (Shader Graph is natively installed in these versions)

After that, you are ready to use ProtoGrid, you can **check the Demo Scene** in order to ensure everything is working.

3. Let's start

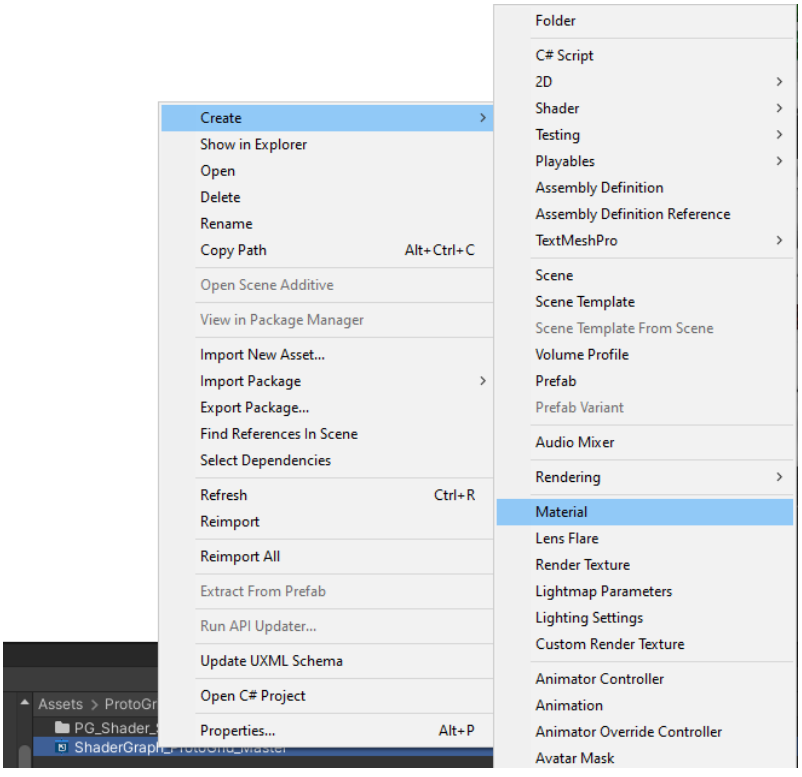
All you need to Setup a new Grid is a **Grid Material** from the **ProtoGrid MasterShader.**

For this you have 2 options :
You can **pick a material included in the Package** and apply it on your objects in the scene.
Theses materials can be found here :

Assets/ProtoGrid/YourPipeline_ProtoGrid/Materials

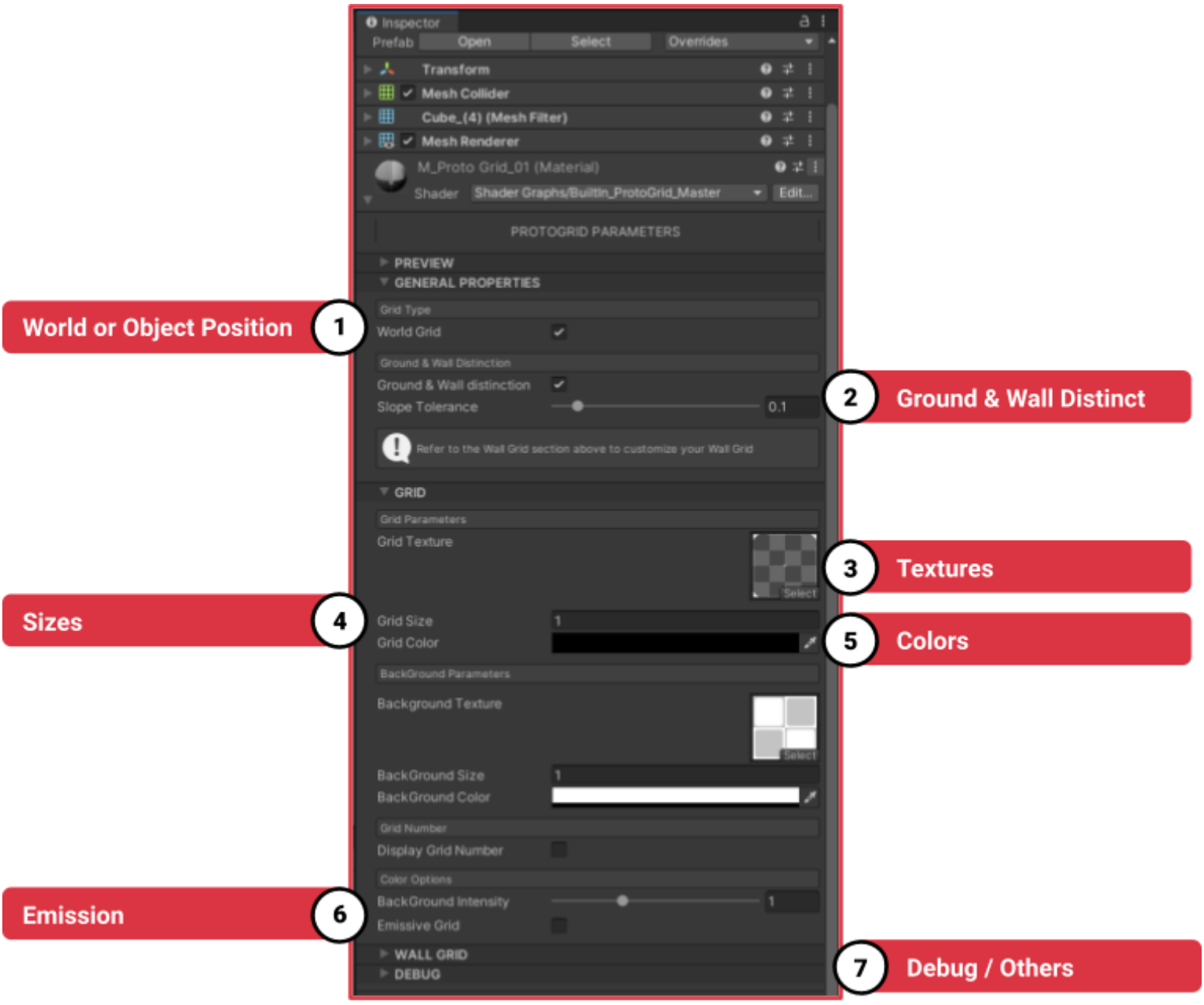
Or, you can create a new one from the ProtoGrid MasterShader directly. To do this, you can find the Master shader here : **Assets/ProtoGrid/YourPipeline_ProtoGrid**

Right click on *[YourPipeline]_ProtoGrid_Master* to **create a new Grid Material** from the Shader (like below)



SHADER DESCRIPTION

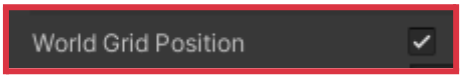
After you have created and applied your Grid Material (you can apply a material by **drag and drop directly** your material on an object in your scene), all you need is the **Material Editor** of **your Inspector Window**. From here you can control **all the properties** of all the objects to which this Grid Material has been applied.



You can also apply and use theses Grid materials on **Probuilder meshes**

1. World or Object Grid Position

World Grid Position

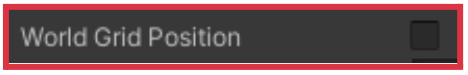


When your Grid is in World position, It means that your Grid is **generated from the 0,0,0 origin** of **your scene**. So :

- **All objects that are in World** Grid Position will **share the same Grid** & **orientation values.**
- If you **rotate or move your object**, it will **not move your grid**.

This can be useful to make sure that your objects are well placed in relation to each other.

Object Grid Position

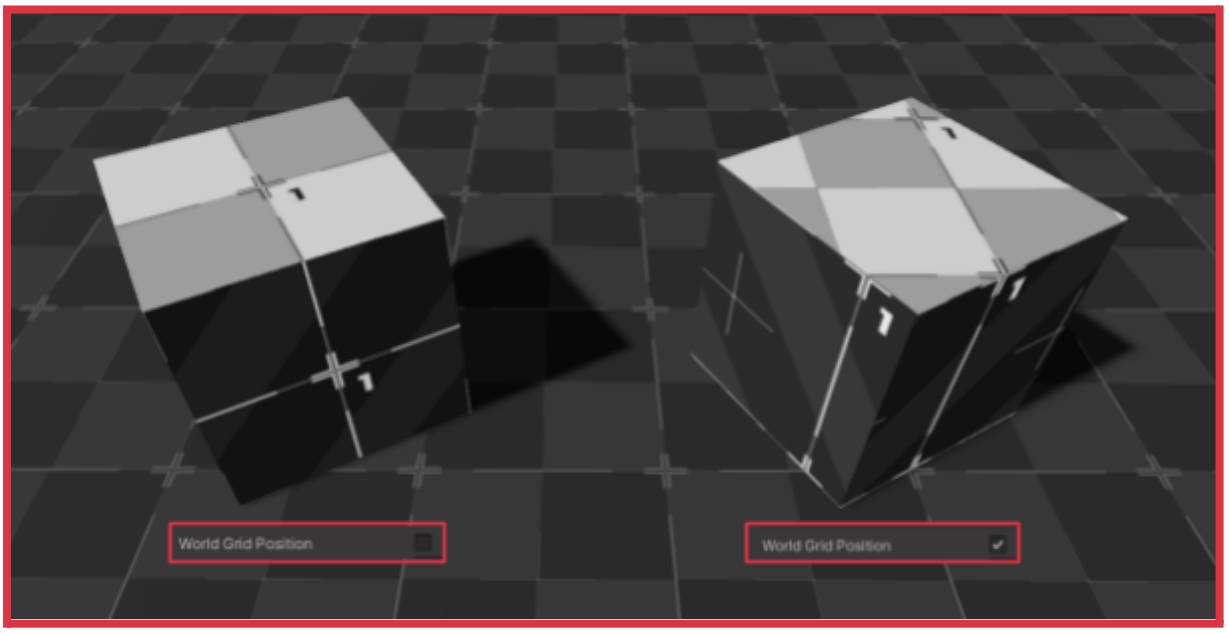


When your Grid is not in World position, it means that your grid is **generated from the Pivot Point of your object**. So :

- Your Grid will **follow your object** if you Move or Rotate it.
- But if you do that, this grid will **not be aligned to the other objects of your scene**.

It can be **useful for gameplay elements** like cover or boxes that require grid accuracy.

Here is a comparison between **world** and **object grid position**

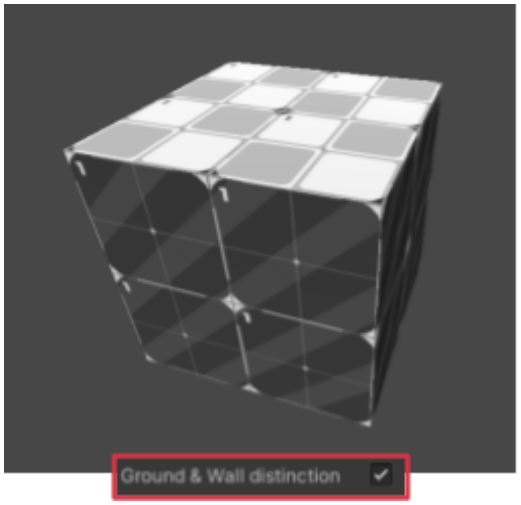


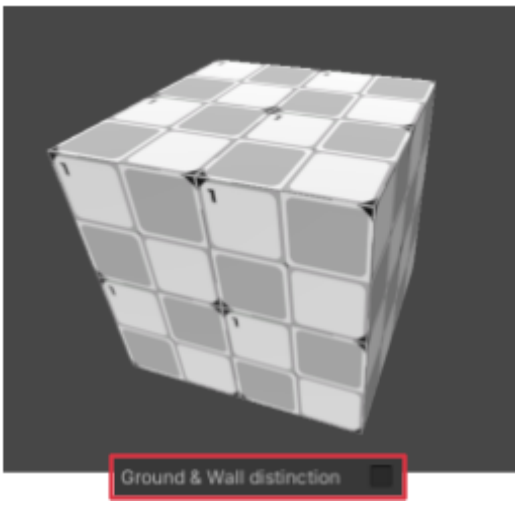
The distinction between the Ground and the Wall of your object is automatic based on your Grid Coordinate (Origin if your are in World or Pivot if your are in Object mode).

2. Ground and Wall Distinction

Enable / Disable Distinction

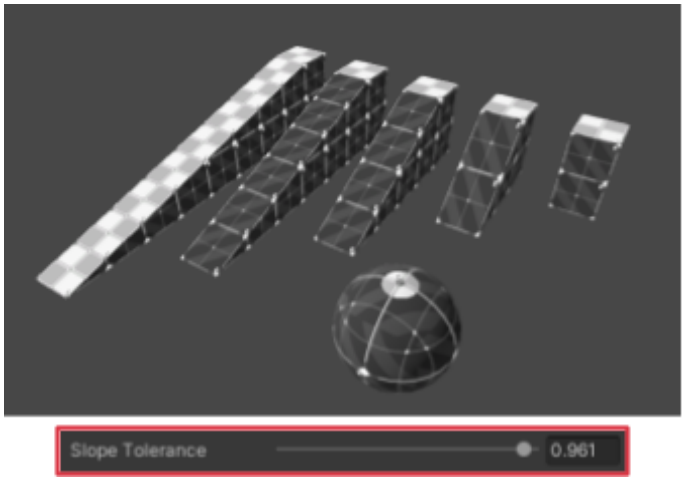
This feature allows you to have two separate Grid fully customizable in order to distinct Wall and Ground. If this is enabled you will have a new section in your material editor in order to customize your wall grid.

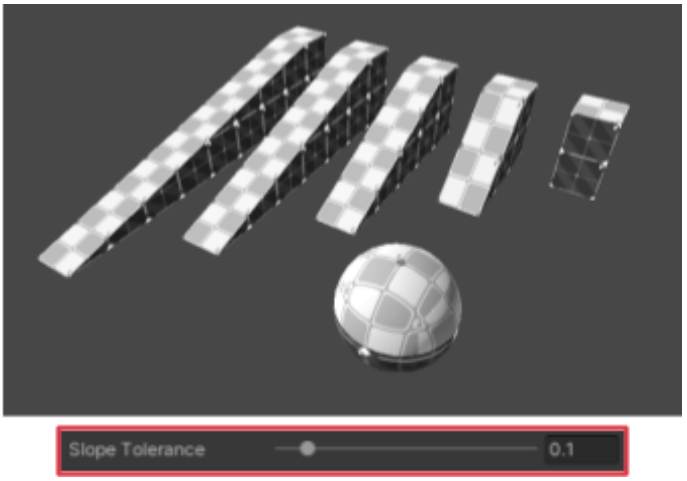




Slope Tolerance

The Slope Tolerance feature allows you to determine the **angle** at which the **grid changes** from the **Ground Grid** to the **Wall Grid**.

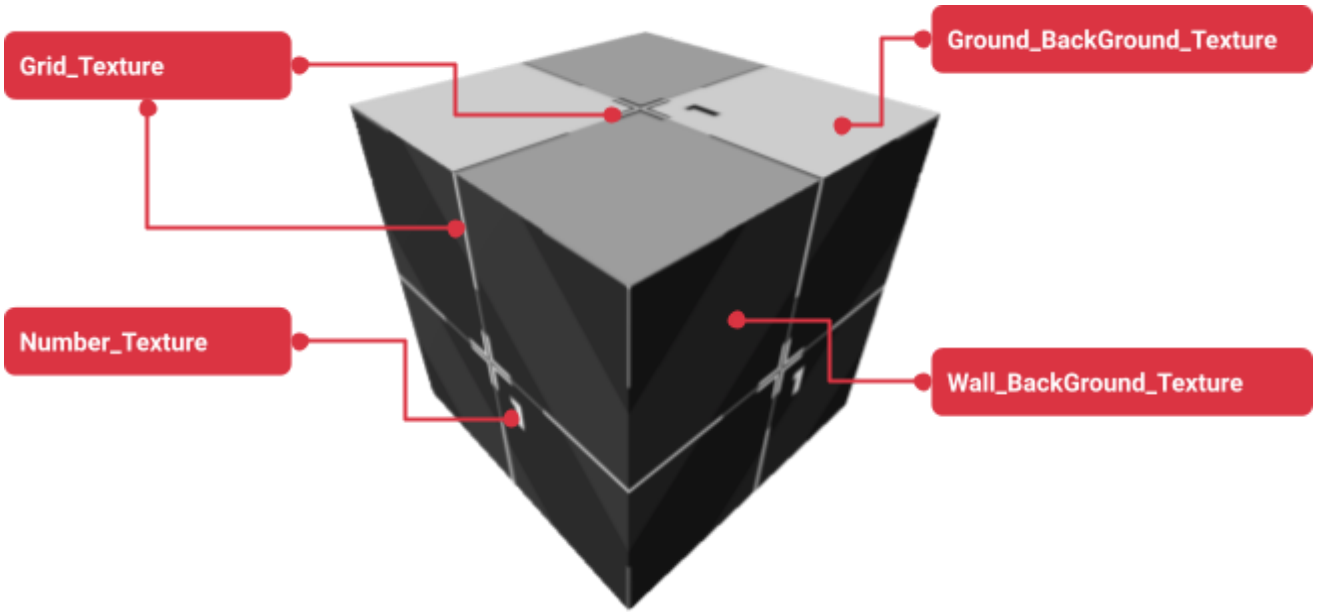




This feature can be useful for **matching your Grid to the slope capabilities of your character controller.**

3. Textures

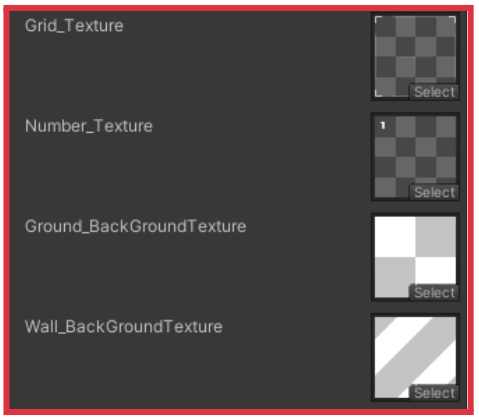
Textures are the first element you can use to customize your grid.



4. Textures Paths

All the Textures availables in this package are here :

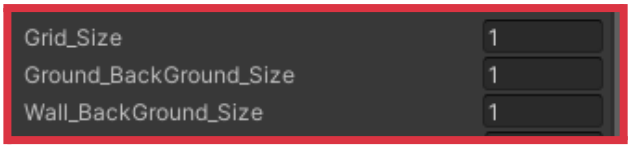
- ***Asset/ProtoGrid/Common_ProtoGrid/ProtoGrid_Textures***
  - *PG_Grid_Texture*
  - *PG_Number_Texture*
  - *PG_BackGround_Texture*



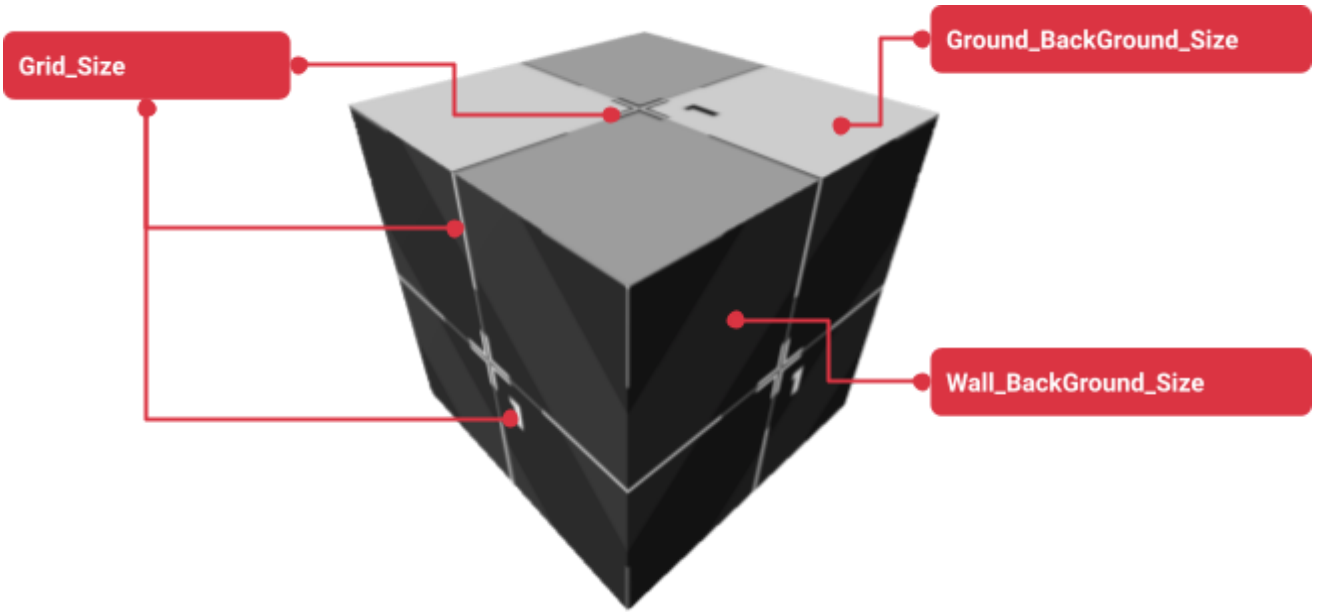
Tips : You can apply more detailed or realistic textures (like brick or grass for example) in your background texture if you want to see some art while keeping your grid information.

5. Size

The Size section determines the size of your Grid, your Number and your Background Texture.



These values are based on the Unity Unit. So a 10 Grid Size corresponds to 10 units in Unity. So if you used an **integer number** (1/2/3 etc…) for your Grid Size, you can use the **Grid snapping tool** of Unity with this Grid Material.



The Grid Size controls **both Grid & Number Texture** Size so that they always match together.

I always recommend choosing the same Texture_Number as your Grid_Size value. To make sure that the number of your values matches your grid Unit.

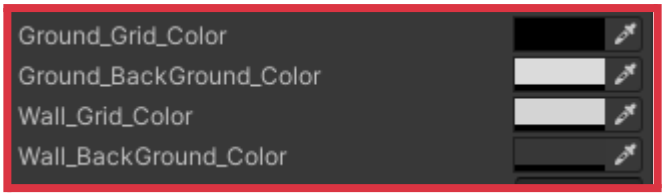
Tips : *Sometimes it's interesting to double the size of your Background Size compared to your Grid Size to have nice effects on your Grid.*

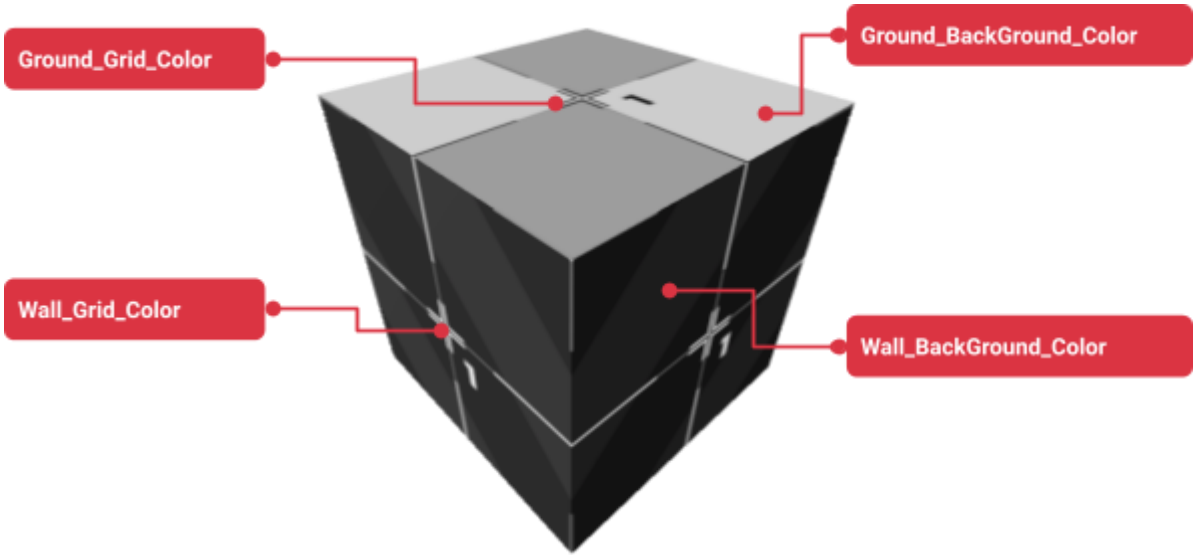
Number Offset

The Number_Offset values are here to **place your number wherever you want on your Grid**. This can sometimes be interesting depending on the look of your Grid texture. For example, in some Grid textures you can place it at the **intersection of the Grid**.

6. Color

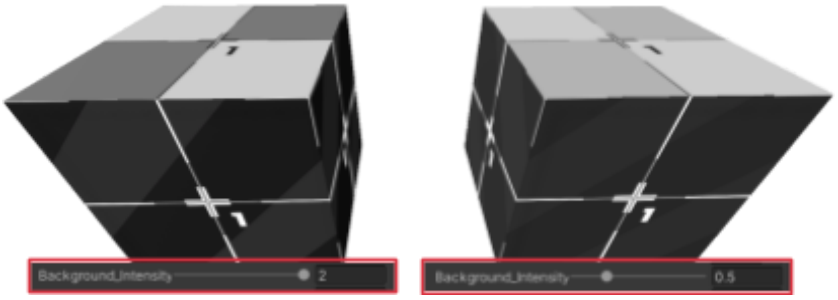
Colors are the second main element to customize your Grid. You can change the color of your **Ground & Wall BackGround** but also your **Ground & Wall Grid separately** to make unique Grid materials.





BackGround Intensity

The BackGround intensity is here to have some variations on the BackGround Contrast.



7. Emission

You can turn on the Emissive Grid parameter to make your grid emissive. This can be helpful to **always see your grid even in dark environments**.

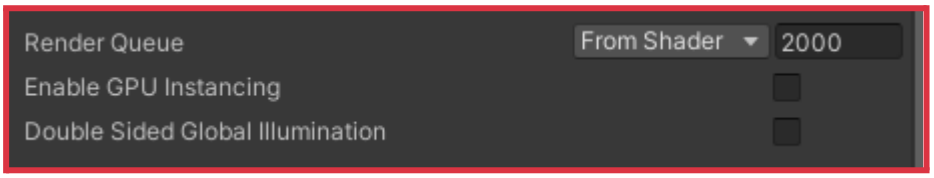
The Emissive_Power property allows you to balance the **intensity of your Emission**

8. Others & Known Issues

Debug Section

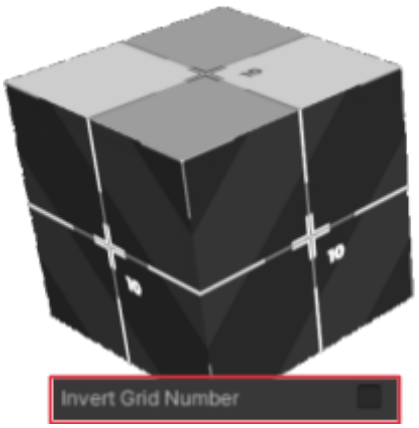
This part is the basic material editor, use it only if you have a bug to check the actual properties of the shader. Changing the properties here can cause unwanted issues.

But you can also use it to access some parameters like the Render Queue if you have visual problems with the render.



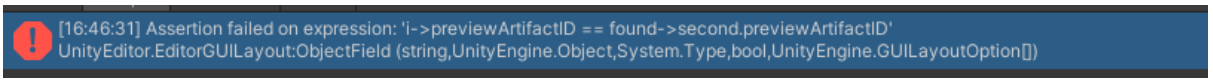
Invert Grid Number

Because of the triplanar, some numbers of the grid are reversed. Depending on how built your scene you can reverse the grid Number if you want to **see the grid from a different angle** so that the numbers are in the right direction.
Disclaimer : But there will always half of the number that will be inverted



Known Issues

- **Console Error :** Sometimes this error appears in the console. This should not create any problem for your game and does not prevent the use of Protogrid. I'm working on it to fix it in a future update.

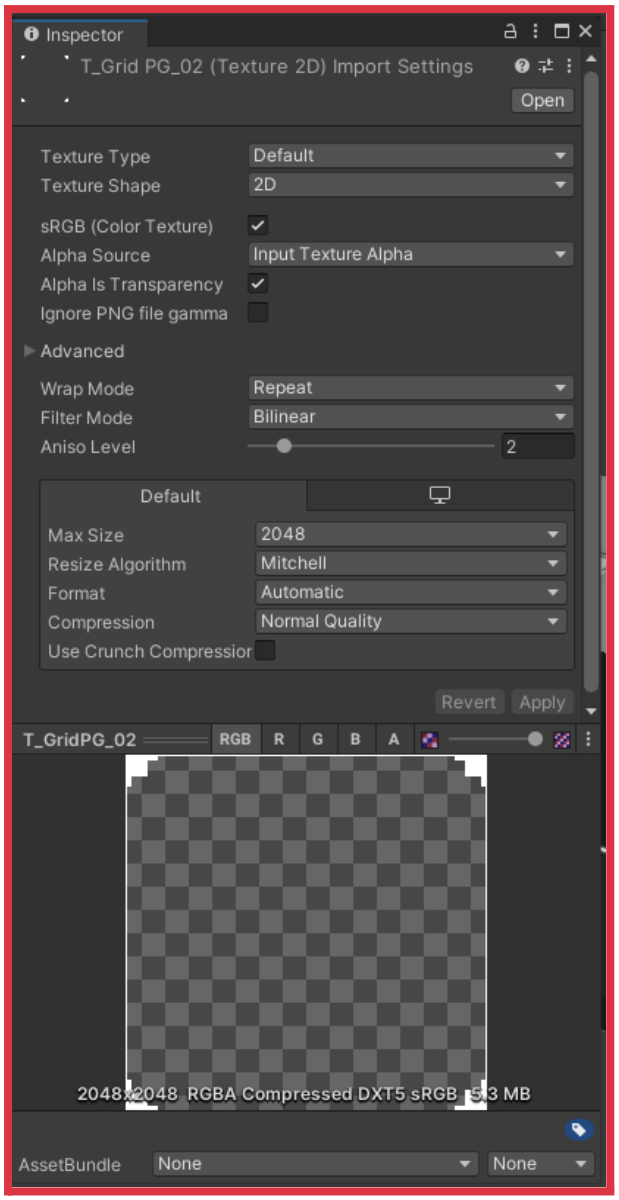


- **Undo (ctrl + z) not working :** I've added the possibility to undo your change in the inspector but actually this feature has some trouble. I'm currently work on it in order to fix in future update

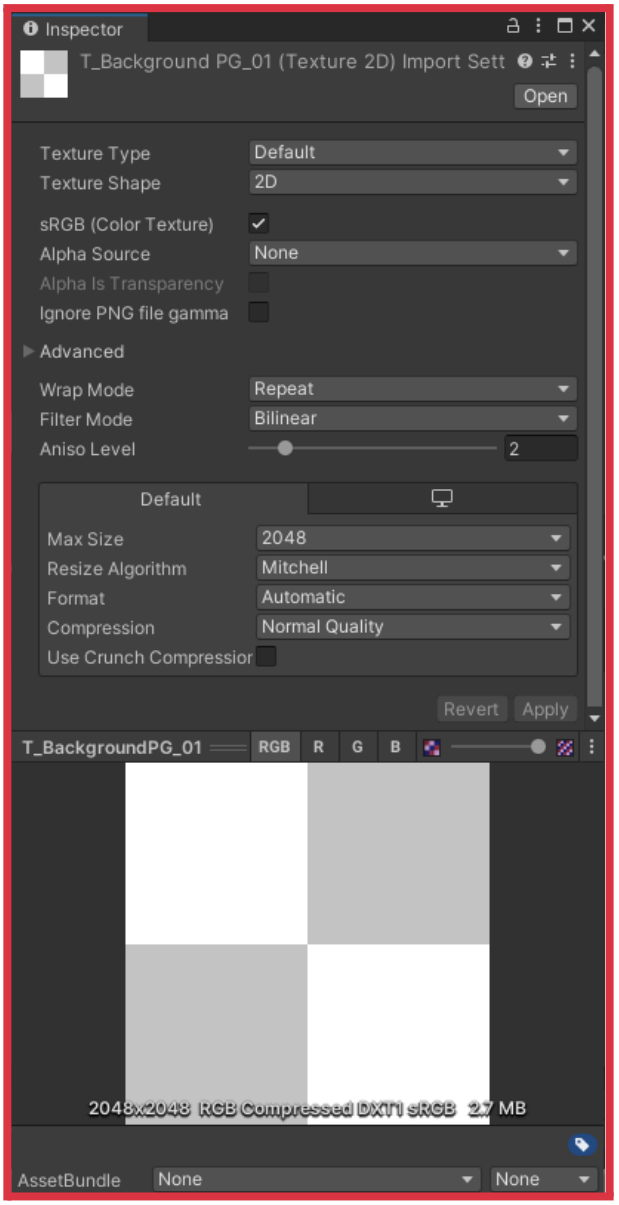
TEXTURE PARAMETERS

If you want to import your own Textures, you can. Here it is the requirements to import custom Grid, Background or Number Texture.
Grid & Number Texture as an **Alpha Channel**. So they need to be exported with Alpha Channel information in order to work. This channel is used for **transparency**.

Grid Texture Parameters



BackGround Texture Parameter



You can also import colored texture as background if you want to further customize your Grid.

Support mail :
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