

ARTIST'S CHOICE EDITION

Liu Yan by Raiya

custom sss-skin-shader
suite

redspec  TGX tailored

POSER
DIZ STUDIO

 octanerender

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Welcome to the RedSpec TGX tailored quick-start guide

At first: **We'd sincerely like to thank you for your purchase!**

We're a very small team of only two people collaborating over the internet from South-Africa and Germany and have invested time and blood in the development of this shader set.

We value you as a customer and will do everything possible to make rendering with our product as easy as possible for you.

We hope that you enjoy our product –if so, and of course if not so please let us know via support@redspec-sss.com

SYSTEM REQUIREMENTS AND NOTES:

Poser 10 / Poser Pro 2014 + DSON Importer for Poser | DAZ Studio Pro 4.6

OctaneRender Standalone 2.1x or any version below

Poser plug-in for OctaneRender (most recent version)

DAZ Studio plug-in for OctaneRender (ver. 2.1x and above)

Liu Yan by Raiya

The use of RedSpec materials **will increase** rendering times.

We've seen lower samples per pixel (S/P) with RedSpec TGX tailored applied that range from minus 4.0 to -7.0 S/P depending on your hardware configuration.

Please take this into account when using RedSpec TGX for production projects.

Since new users to RedSpec can get quite confused with the node setup of the shader, we decided to give you a quick overlook of the material structure.

This will also show how you can customize the shader to your liking.

Design & Compatibility

In early 2014 we very successfully launched our products *RedSpec TGX* and *RedSpec TGX Wet Beta*.

Although quite pleased with the results the community was able to deliver with our shaders, we never stopped thinking that one step further...

If you already used *RedSpec TGX* in the past you'll be quite surprised how much we were able to optimize rendering speed and visual quality of our shader with *RedSpec TGX tailored* all while retaining maximum texture detail.

In comparison to *RedSpec TGX*, *RedSpec TGX tailored* can run up to 30-40 % faster under the same lighting conditions.

This is made possible by using custom-designed opacity maps, that "tell" the shader where it should apply sub surface scattering and specular effects and where not.

Since this shader is an entry in the "tailored" ARTIST CHOICE EDITION product-line the files were specifically designed to work with Liu Yan only. We collaborated closely with the original character artist, to ensure to achieve the best possible quality.

They will not work properly with any other character / figure.

Please understand that due to the complex shader structure a basic knowledge of OctaneRender's functionality and node-system is essential to use and customize the product.

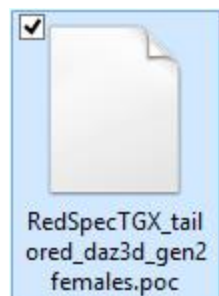
Sub Surface Scattering is a complex shading technique that makes use of physically correct rendering. This however also requires the kernel node in the **Settings** tab of OctaneRender to either be set to **Pathtracing** or **PMC**.

As the matter of fact, we highly recommend using the **PMC** kernel, as this will clear up skin that has *RedSpec TGX* products applied to it, much faster.

The full effect will **not be visible** whilst using the **Direct Lighting** kernel.

Applying the Shader (OctaneRender POSER plug-in)

RedSpec TGX tailored and its essential files is installed by default into **C:\Program Files\RedSpecTGX\raiya_liu_yan** – from here you can load the regular shader **.poc-file** called **RedSpecTGX tailored raiya liu yan.poc** If you don't want to keep the .poc-file in that directory, and would like to move it into a more convenient location – it is fine do to so.

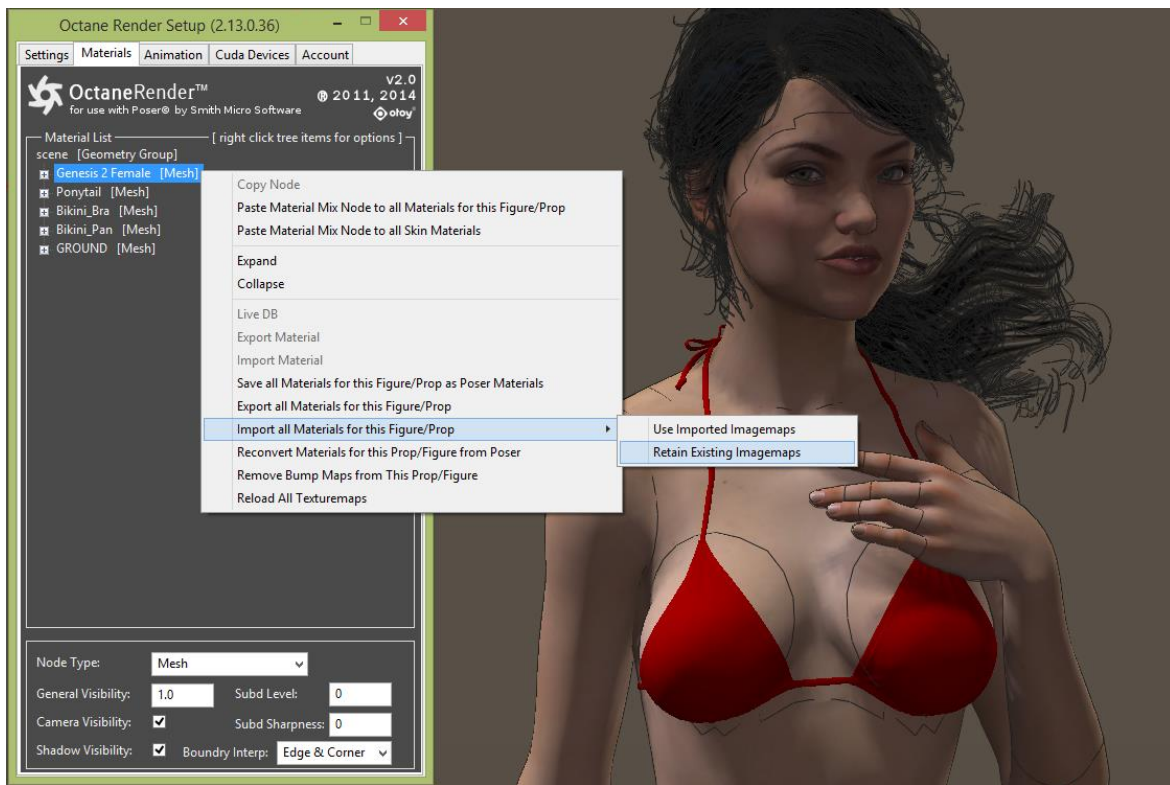


Make sure, that all other files remain in the above mentioned folder.

The shader will otherwise not work correctly!

The following easy steps are necessary to apply RedSpec TGX tailored.

- 1.) **Load** Liu Yan into Poser as you normally would.
- 2.) Morphs can be loaded even after the shader is applied.
- 3.) Start OctaneRender over **Render → OctaneRender**
- 4.) Select the **Material** tab once the OctaneRender menu has come up.
- 5.) You should see your character in the list (Genesis 2 Female [Mesh]).
- 6.) **Right-click** on that figure and hover over the menu point: "**Import all materials for this Figure/Prop**"
- 7.) In the now opening menu select: "**Retain existing image maps**" (This will make sure that all the textures you applied will stay in place and RedSpec TGX tailored will be applied over them without replacing them with others.)



- 8.) Point to the .poc-file
- 9.) A context window should come up as soon as RedSpec is finished loading.

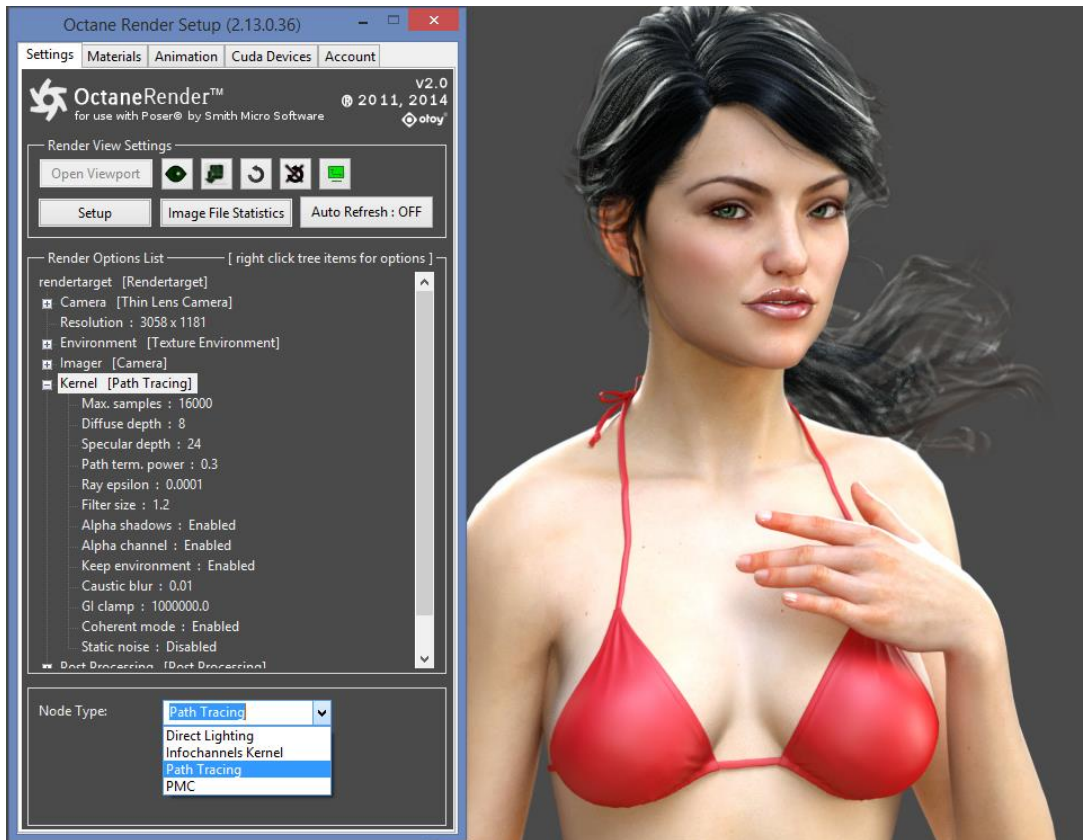


10.) In case you should receive errors while loading the product – please refer to the last page of this guide.

11.) To conclude loading the shader make sure to set your render kernel to either **Pathtracing** or **PMC**.

This can be done by clicking on the **Settings** tab in OctaneRender, after which you should click on the menu point “**kernel**”.

12.) Select either **Pathtracing** or **PMC** in the dropdown list below and open your render viewport



13.) This concludes loading RedSpec TGX tailored in OctaneRender for Poser ©

Changing MATs (OctaneRender POSER plug-in ONLY!)

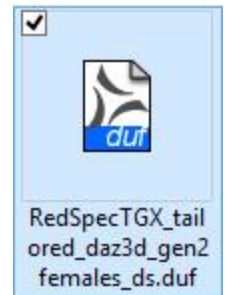
Changing a MAT-file in Poser will unfortunately not automatically change it in OctaneRender even when the Render viewport is open.

To reflect changes made to your figure inside Poser you need to **reconvert** the materials from Poser first, and then **reapply** the shader again as explained on the previous page.

To do so first apply all MATs that you want inside Poser first. Then simply right-click on your Liu Yan in the Poser OctaneRender Materials tab and select **Reconvert materials for this Prop/Figure** from Poser. Afterwards refer to the previous page to reapply the shader again.

Applying the Shader (OctaneRender DAZ STUDIO plug-in)

For applying the DAZ Studio shader, the installation routine by default installs a **.duf-file** into **C:\Program Files\RedSpecTGX\raiya_liu_yan\dazstudio**. The file is called: **RedSpec TGX tailored raiya liu yan ds.duf**



Please double-click on this file, to open DAZ Studio.

Once the program has opened please load Liu Yan via your DAZ Studio library – just as you normally would.

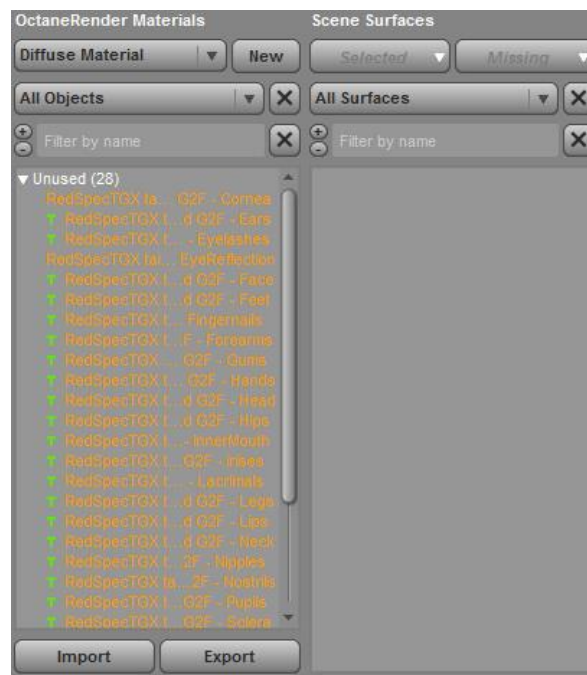
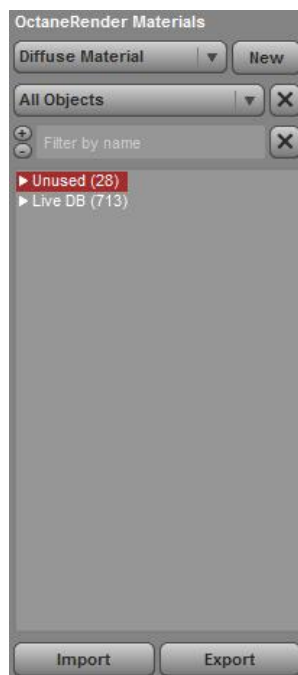
Once the character is loaded into the scene, open your OctaneRender menu by accessing it where you docked it last, or by clicking on **“Render”** in the DAZ studio upper menu bar and then selecting **“OctaneRender Main”**. (Alternatively you can do this by simply pressing **F12**)

Next click on the **“Materials”** tab inside OctaneRender.

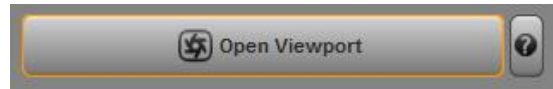


Besides the LiveDB materials you now should be able to see a new category of materials in the left **“All Objects”** pane named inside the OctaneRender materials listing **(29) “Unused”** materials inside it.

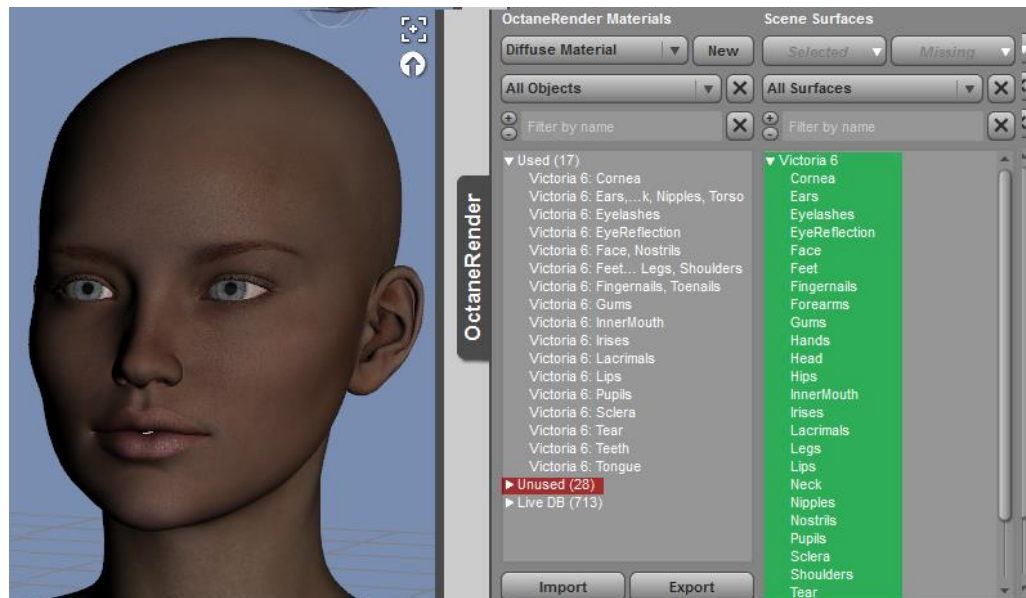
You can unfold the **“Unused”** materials, by clicking on the small white arrow next to it, to reveal the RedSpec TGX tailored G2F materials.



It's now time to open the OctaneRender viewport by clicking on the respective button.



The scene will load into the viewport and you should be able to see your loaded figure with her standard DAZ Studio materials applied.



Note that the "Unused" materials are still present in the OctaneRender materials "All Objects" pane and have just moved below the "Used" materials that are applied to your loaded figure (indicated in red).

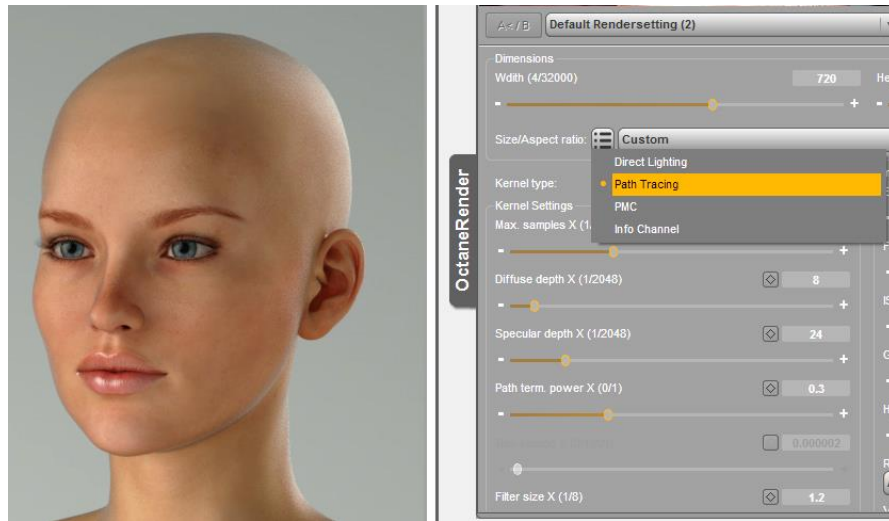
To now apply RedSpec TGX tailored to individual body parts simply pull the materials from within the "Unused" section onto the corresponding body part in the "Scene surfaces" tab, right next (indicated in green) to it by clicking and holding the left mouse button.

It's really that simple! – Just drag & drop.

The material will now automatically load all necessary files and apply the shader to that corresponding body part.

Since the materials are not automatically loaded onto the complete character, you have maximum creative control and can determine yourself, where the materials should be used and where not. – This will also reduce your render times, for example by only loading the materials onto the head, neck and facial features, for portraits, and leaving them off the rest of the body when you have a portrait situation.

Conclude by setting the render Kernel type in the “Render Settings” tab of OctaneRender for DAZ Studio to **Pathtracing** (or PMC).

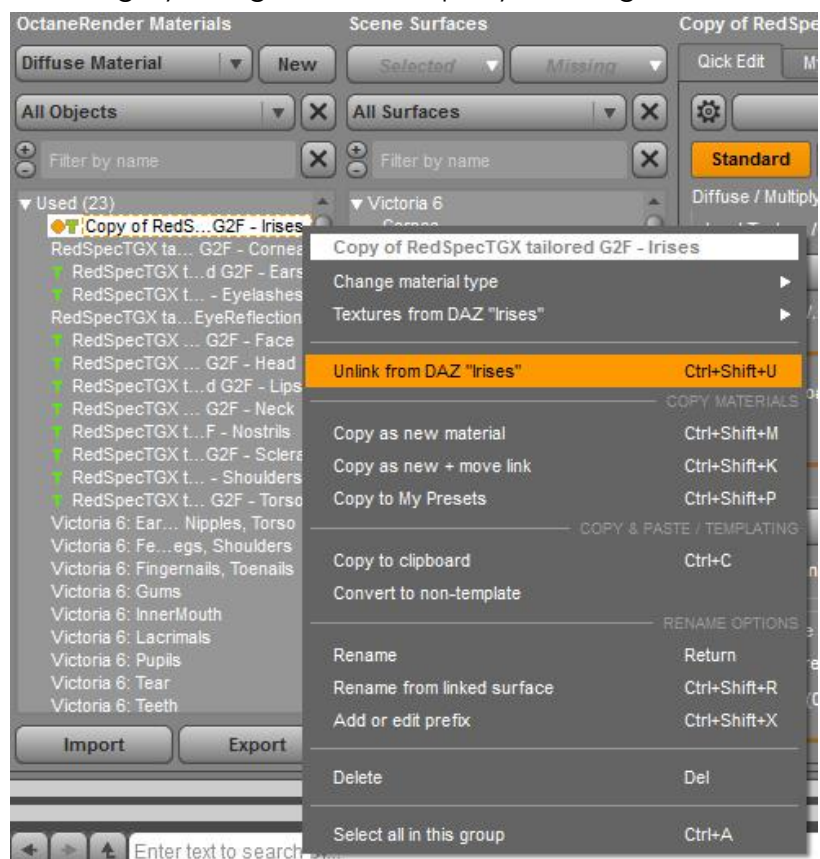


Changing MATs (OctaneRender **DAZ STUDIO** plug-in ONLY!)

If you – for example – would like to change your figures make-up, eye, or fingernail-color, you can apply the material directly in DAZ studio as you know it.

It will – however – not automatically update inside OctaneRender for DAZ Studio.

To reflect the changes in OctaneRender, you have to **Unlink** RedSpecTGX tailored from the corresponding materials first, and then **reapply** it afterwards – they will now load with the new textures in place.



The following materials are affected when changing textures:

Make-Up: Face, Lips, Eyelashes

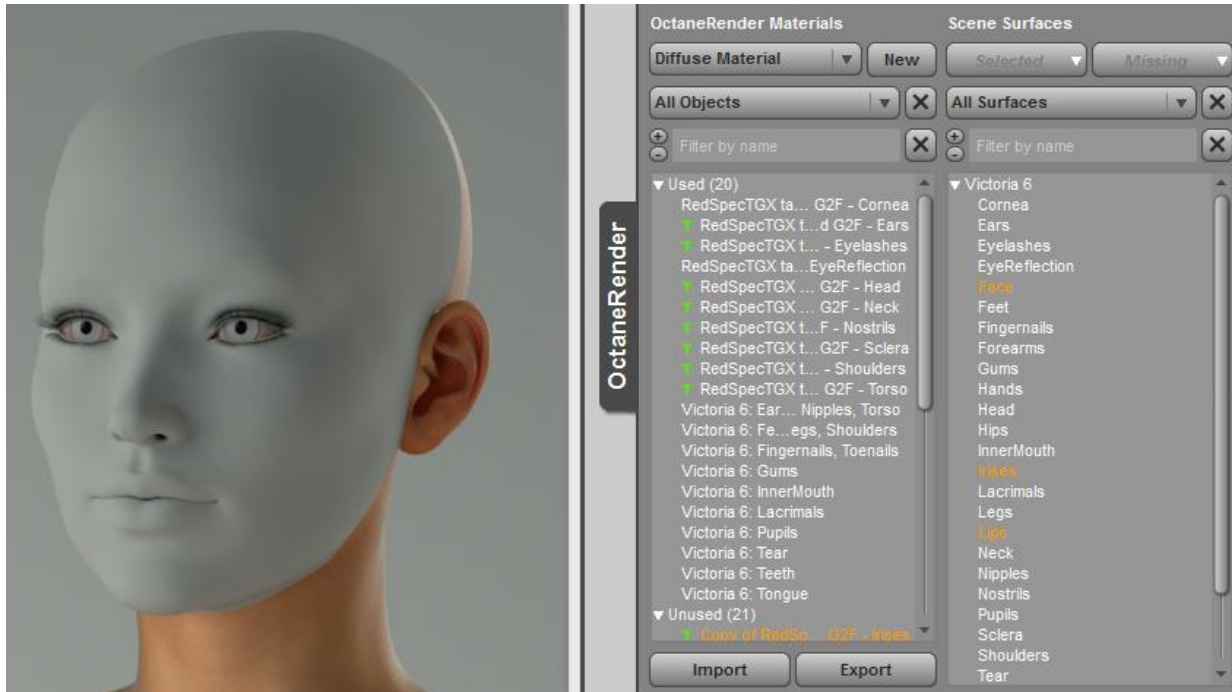
Eye color: Iris, Pupil, Sclera

Finger- and toenails: Fingernails, Toenails

Tattoos: Corresponding body part (e.g. Forearms, Shoulders, Chest etc.)

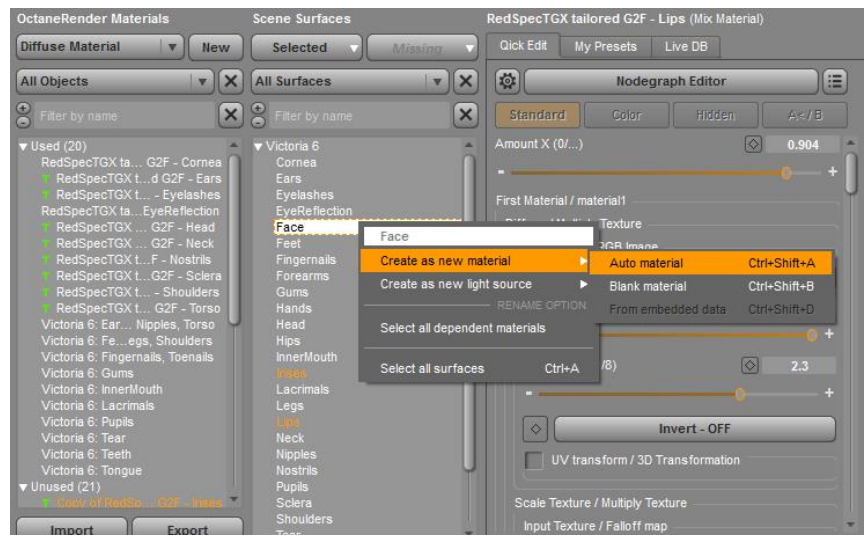
To unlink RedSpec TGX tailored from a select body part, just right-click on it in the “Used” list of the “OctaneRender materials” column and select **Unlink from DAZ “(Name)”**.

This will remove RedSpecTGX tailored **and** all textures from that material zone, as illustrated below (Face, Lips and Iris materials where unlinked in the example).

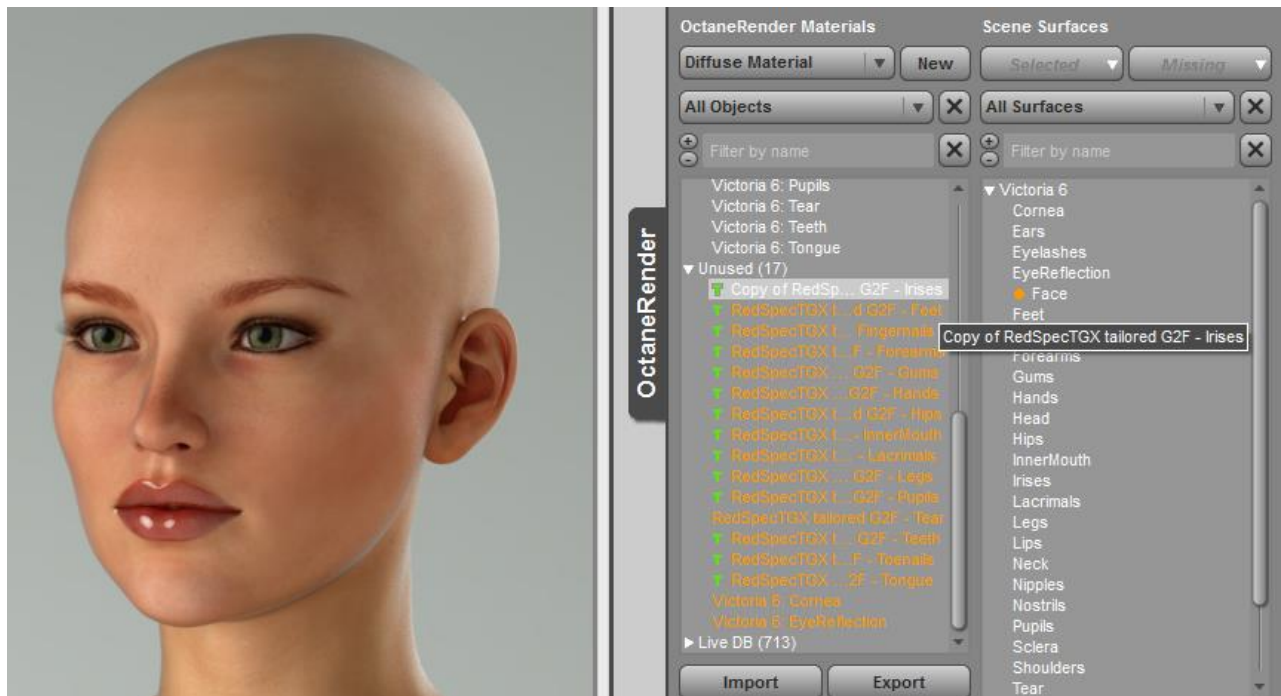


Afterwards right click on the corresponding materials in the **Scene Surfaces** column (the right one) and select **Create as new material → Auto material**.

This will reload the materials from DAZ Studio (where you previously applied different make-up, eye colors etc.). You should already see the texture change in the viewport window.



Now simply **reapply RedSpecTGX tailored** to the corresponding material from the **Unused** category in the **OctaneRender materials** column like you did before and the body part will reload with the new textures in place and RedSpecTGX tailored applied to them.



This concludes loading RedSpecTGX tailored for OctaneRender for DAZ Studio ☺

The basic node structure – material1

The basic node structure consists out of a **material mix**. That means two materials are basically forged into one.

If you select a limb of your figure that you applied RedSpec too and afterwards open the OctaneRender material tab, you can see that the basic structure has got only two materials – at least on first sight. By default, **material1** consists out of 2 *submaterials* - a **diffuse** and a **specular** node.

Diffuse materials are generally there for assigning texture maps and/or color values to an objects surface.

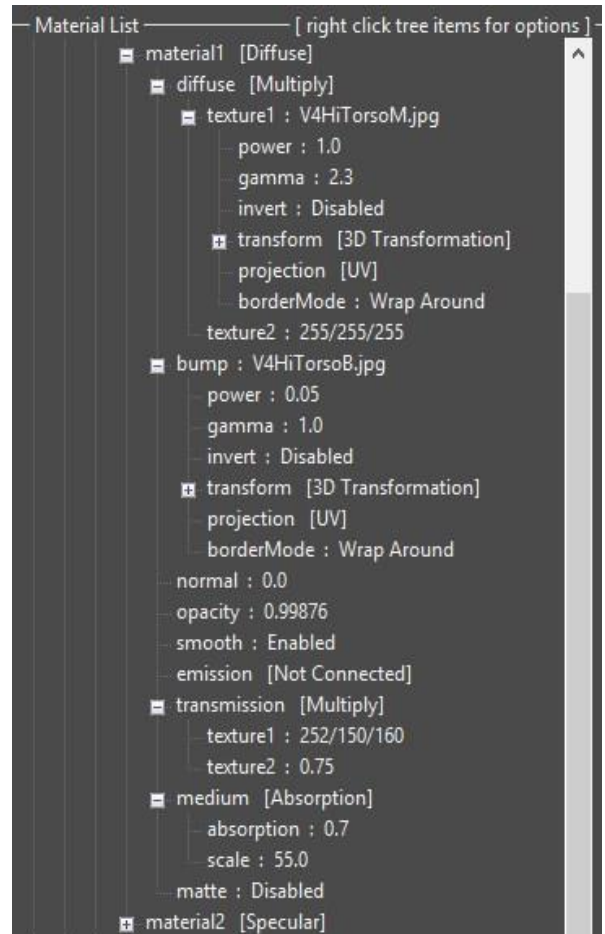
The diffuse material furthermore has 2 additional submaterials - **texture1** and **texture2**

texture1 is where the skin texture for your character will be loaded into.

texture2 is set to 255/255/255 (white) by default. Assuming you would want to change the color of your characters skin but **KEEP** the texture1 structure you could replace the white with another color value in order to achieve a similar effect like in the below pictured comparison.

The blending mode of those two materials is set to **[Multiply]** meaning that texture1 and texture2 will be blended over each other.

Specular materials will add a “shininess” to the surface of the object – meaning that at higher values this can even become as reflective as a mirror



RedSpec TGX inside OctaneRender
(material editor)

material1 – making changes to the nodes

Since human skin produces a thin film of oil (mainly consisting out of fat) the specular node is there to simulate this effect.

IMPORTANT NOTE:

The specular node should not be used to achieve a “wet-look”-like effect, since it could render the skin looking to “plastic-y”.



In this image the 255/255/255 was replaced with a pinkish color

The **bump** node will – by default – load the bump map that was provided by the texture artist who created the character you're using.

Since the top layer of human skin (the *epidermis*) is not entirely flat but is mainly uneven – caused by hair growth and environmental influences - the bump map renders the skin uneven –



Left: Lower bump value / Right higher bump value

which is like it would be in reality with molds and bumps.

Changes in the **opacity** node will render the skin texture invisible while retaining the bump and specular maps.

This can lead to interesting results pictured below, although the effects of RedSpec won't be visible by using lower values.



Character with an opacity value of 0.00

Sub surface scattering – a short explanation

The **transmission** node plays a huge and important role in simulating an effect that is called **Sub Surface Scattering** (short: **SSS**) and is absolutely critical in simulating human skin.

In reality light rays (emitted by the sun or other light emitters like lamps) either bounce off of solid or specular materials (like walls, mirrors etc.) or penetrate them to a certain degree when the materials are translucent.

This means that light rays penetrate the *epidermis* and then bounce off the second skin layer called *dermis*. Sometimes they even penetrate as deep as to the third skin layer called *subcutis* and are reflected back by blood vessels or muscle tissue changing the color of the light to a reddish tone.

The image to the right is showing this in particular around the ears.

The less dense the body, the more translucent it will become, making it possible for light rays to move through it.

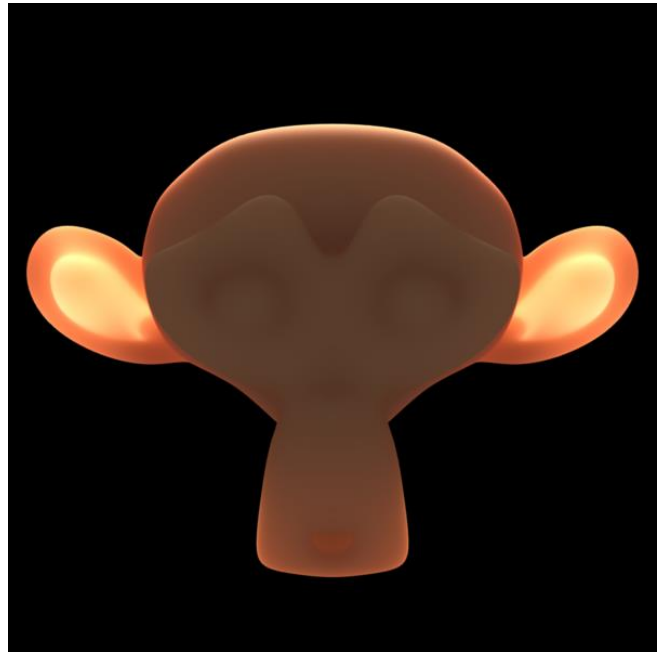
The **transmission** node simulates this by letting you chose the color that shines through from underneath your skin texture.

In the following example we chose a greenish skin tone in the **diffuse/material2** (see above) and set a bright purple as the transmission color. The effect is shown in the below pictured image

IMPORTANT NOTE: The **lighter** the color, the **stronger**, the **darker** the **more subtle** the **SSS** effect will be

As you can see interesting material combinations for aliens / monsters and other creatures are possible – your imagination is really the limit here.

For human skin it is highly recommended to not change the default color



SSS demonstrated on a blender monkey mesh (source: wikipedia.org)



Abstract form of SSS with a bright purple set as the transmission color

Sub surface scattering – adjusting strength

The last node that concludes **material1** is the **medium** node. Particularly on lower specced systems the value can be adjusted in order to artificially thin out the skin material so that light rays can penetrate it faster and the SSS effect becomes visible even on such low **max depth** settings as **2**.

Just as we mentioned in the introduction it is absolutely necessary to select either the “**pathtracing**” or the “**pmc**” kernel in the *settings* tab of the OctaneRender window.

Since the max depth determines after how many bounces a light ray will be “killed” setting this to lower values can greatly shorten rendering times at the cost of flatter lighting.



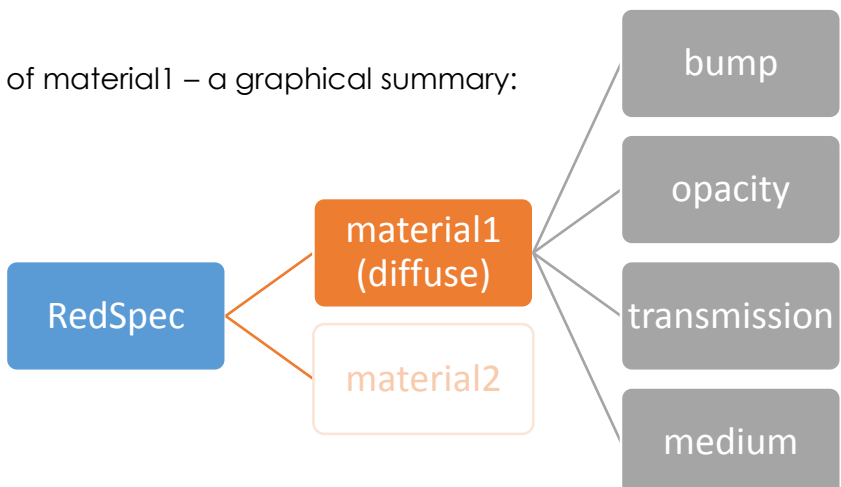
Left: Higher medium values thicken the skin making it harder for light rays to penetrate. Right: Lower values than 0.55 should be avoided as they will unnaturally redden the skin material

(Hint: In reality light rays can bounce as often as **16** times)

We only recommend this if you're using photo-studio –like renderings, where there is nothing else in the scene but the character.

IMPORTANT NOTE: Don't set the **medium** value lower than **0.55** as this might otherwise thin out the skin too much and will actually reduce texture and bump detail, leaving the skin too pink/red.

To conclude the walk-through of material1 – a graphical summary:



The basic node structure – material2

Material 2

This material is essentially responsible for creating reflections of surroundings and light sources. The smaller the light source the sharper the reflection will be.

It consists out of a “reflection” node that will let you change the RGB values in “texture1” and “texture2” which both determine the strength of the reflection.

The brighter the color set the more the specular effect. The darker, the more subtle the skin reflection will become.

The “transmission” node adds a slight skin tonality to the reflection, making it more realistic – this should be left at the default value.

The “filmwidth” node can be adjusted in order to create a more “wet-look” like effect or render the skin dryer.

Try the standard value for wetter and lower values for dryer looking skin.

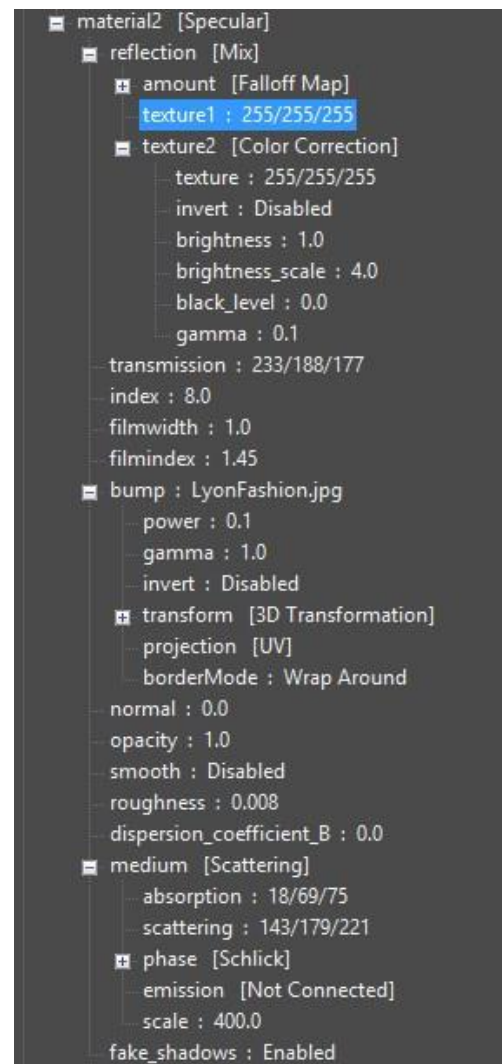
Further down you’ll find that the specular material also has a “bump” node assigned to it. This is necessary in order to show the bumpiness of the skin – not only on the skin itself – but also in the reflections.

The “roughness” node can also be utilized in order to control the wetness of the skin. Play around with this value to see the results.

This concludes our quick start guide!

Something left unanswered?

Write us at support@redspec-sss.com and we’ll get back to you as soon as possible. Also make sure to register at our official boards for quick support at: <http://redspec-sss.com/forum/index.php>



- **Team RedSpec**

Known issues

1.) When applying the .poc-file I get multiple error messages stating “Can’t find texture...”

This is usually related to not all files being installed in the default install directory. Please reinstall the shaders, using the dedicated .exe-installer file and try loading them again. If your problem persists: Please report it to us via e-Mail or the official www.redspec-sss.com boards.

Solution: Reinstall the shaders

2.) I cannot see any Sub Surface Scattering effect, the skin just looks more reflective”

Solution: Make sure you have selected **Pathtracing** or **PMC** as your kernel type in the **Settings** tab of OctaneRender.

3.) After I have applied RedSpec my characters skin tone is overly red / pink.

This is essentially Sub Surface Scattering at work and is usually related to how you set up the light in your scene and its intensity.

There's several things you can do to solve this problem.

Solution(s):

- 1.) Turn down the power of your lights and instead increase the brightness of your scene over the **fstop** and **ISO** settings.
- 2.) Change the direction of your light to not shine directly at the camera sending light beams through the character.
- 3.) Select the limb(s) that appear to red in the **Material** tab of OctaneRender and click on the little **+** to unfold the material. Unfold **material1** in which you unfold the underlying **material1**. Finally unfold **transmission** and change the **texture2** value from the value it has (default values range between 0.75 and 0.6) to something around **0.3 – 0.1**

4.) I'm getting hot pixels with RedSpec applied

Solution(s): In OctaneRender's **Settings** tab select the **imager** node and lower the **hotpixel_removal** value. (**Warning: This will restart the render**)

5.) Render noise on characters/limbs with RedSpec take a lot of time to resolve

Solution(s): Resolving **will** take longer – however this can be influenced with optimizing the lighting in your scene. Make sure that everything is evenly lit and avoid shadowy areas on the skin as this will increase render noise and clearance times.

6.) My characters eyes appear white and the Iris texture doesn't show through

Solution(s): Select the Iris material and unfold it. Copy the texture that is sitting in **[diffuse]** → **texture1** and paste it over the **[specular]** and the **[bump]** node further down in the Iris material. We pasted a before and after shot below to show the effect.

Before



After



DISCLAIMER:

All brands / products mentioned in this quick-start-guide are property of their respective owners.

OctaneRender © Otoy

Poser 10 / 2014 © Smith Micro Software

DAZ Studio © DAZ3D

RedSpec © www.RedSpec-SSS.com

Genesis 2 © DAZ3D

Liu Yan © Raiya

RedSpec TGX and TGX tailored are designed and engineered in South Africa, Germany and France

SPECIAL THANKS:

A big shout out to the fantastic deviantart community out there that we have the honor to be working with – thanks for your ongoing and continuous support!

Thank you so much Paul Kinnane from Otoy for your advice and great help!

We'd like to thank François Maziere for his help in converting the DAZ Studio files. You rule !

And finally thanks to our good buddy Adriano Di Pierro from Laticis Imagery for doing some DAZ Studio test-runs for us – thanks mate!

redspec TGX
for octanerender

