

Light Source:

Shading is also dependent on the lighting used. Usually, upon rendering a scene a number of different lighting techniques will be used to make the rendering look more realistic. Different types of light sources are used to give different effects

An **Ambient** light source represents a fixed-intensity and fixed-colour light source that affects all objects in the scene equally. Upon rendering, all objects in the scene are brightened with the specified intensity and colour. This type of light source is mainly used to provide the scene with a basic view of the different objects in it.

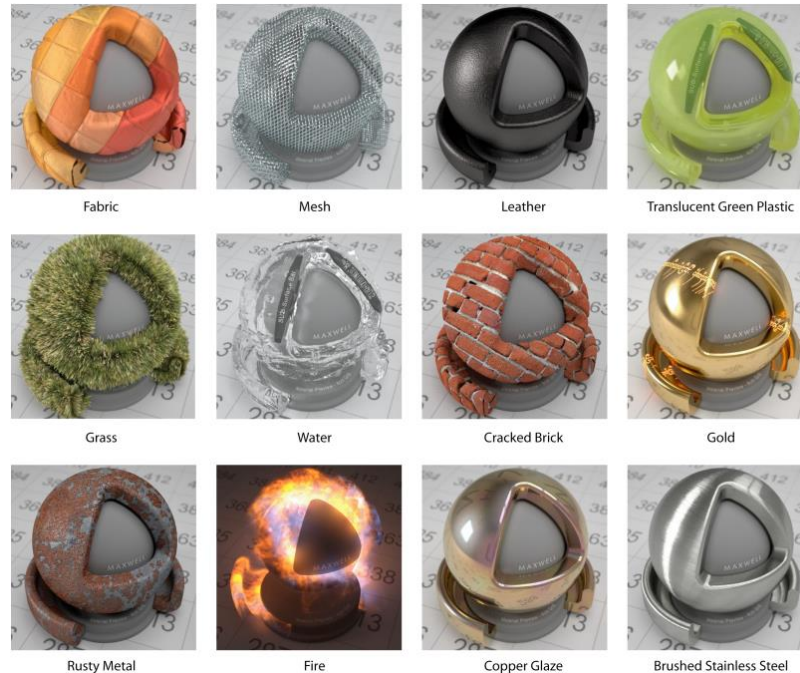
A **Directional** light source illuminates all objects equally from a given direction, like an area light of infinite size and infinite distance from the scene; there is shading, but cannot be any distance falloff.

A **Point** light originates from a single point, and spreads outward in all directions.

A **Spotlight**. Light originates from a single point, and spreads outward in a cone.

Materials:

A material defines the artistic qualities of the substance that an object is made of. In its simplest form, you can use materials to show the substance an object is made of, or to “paint” the object with different colours. Usually, the substance is represented by its surface qualities (colour, shininess, reflectance, etc.) but it can also exhibit more complicated effects such as transparency, diffraction and sub-surface scattering. Typical materials might be brass, skin, glass, or linen



Reflection:

Reflection in computer graphics is used to emulate reflective objects like mirrors and shiny surfaces. Glass and clear plastic can be made to look very realistic using reflection.



Shade:

Shadows can be added to an object to help create a more realistic view. Shadows also help to make the object look more 3D. The intensity of the shadows can be changed to suit the environment.



3D Rendering Techniques

Sited Environment:

An Environment that represents how the 3D Cad model would look in a realistic environment.

