

Texture Encoding

Reference for the Texture Encoding section of the Unreal Engine Project Settings.

Texture Encoding

Encode Speed Settings

Section	Description
Final Uses RDO	<p>If true, the speed of texture encoding when saving textures to disk in compressed formats enables Rate-Distortion Optimization (RDO) on supported encoders to decrease on-disc size of textures in compressed package files.</p> <p>This rate-distortion tradeoff is controlled by a parameter called lambda.</p> <p>The <code>LossyCompressionAmount</code> parameter on textures is used to control lambda.`</p> <p>Specific <code>LossyCompressionAmount</code> values correspond to RDO lambdas of:</p> <ul style="list-style-type: none">• None - Disable RDO for this texture.• Lowest - 1 (Least distortion)• Low - 10• Medium - 20• High - 30• Highest - 40 <p>If this is set to Default, the <code>LossyCompressionAmount</code> in the LODGroup (Texture Group) for the texture is used instead. If <code>LossyCompressionAmount</code> is also Default, then the Final RDO Lambda setting described on this page is used.</p> <p>Note that any distortion introduced is on top of, and likely less than, any introduced by the format itself.</p>
Final RDO Lambda	<p>Ignored if Final Uses RDO is false.</p> <p>This value is used if a given texture's <code>LossyCompressionAmount</code> is set to Default.</p>

Section	Description
	<p>Otherwise, the value of <code>LossyCompressionAmount</code> is translated into a fixed lambda (see Final Uses RDO on this page).</p> <p>Low values lead to higher quality results. A value of 1 amounts to the least distortion.</p>
Final Effort Level	<p>Specifies how much time to take trying for better encoding results.</p> <p>You can choose from the following options:</p> <ul style="list-style-type: none">• Default: Let the encoder decide what's best.• Low: Faster encoding, lower quality. This quality level is not recommended for your final packaged project.• Normal: Offers a balanced output between encoding time and quality.• High: Takes the longest time for the highest quality. This is the recommended setting for nightly builds and unattended cooks.
Final Universal Tiling	<p>Optimizes texture encoding for tiled texture layouts on disk.</p> <p>This only applies to Oodle with RDO (Fast Uses RDO or Final Uses RDO) enabled.</p> <p>256 KB is the recommended value for the majority of use cases.</p> <p>Enabling this option decreases the on-disk sizes of textures for platforms with exposed texture tiling (console platforms), but slightly increases texture sizes for platforms with opaque tiling (desktop platforms).</p> <p>You can choose from the following options:</p> <ul style="list-style-type: none">• Disabled• Enabled 256 KB• Enabled 64 KB
Fast Uses RDO	<p>If enabled, final encode speed enables rate-distortion optimization on supported encoders to decrease on-disk size of textures in compressed package files.</p> <p>This rate-distortion tradeoff is controlled by a parameter called lambda.</p> <p>The <code>LossyCompressionAmount</code> parameter on textures is used to control lambda.</p> <p>Specific <code>LossyCompressionAmount</code> values correspond to RDO lambdas of:</p> <ul style="list-style-type: none">• None - Disable RDO for this texture.• Lowest - 1 (least distortion)• Low - 10• Medium - 20• High - 30

Section	Description
	<ul style="list-style-type: none">Highest - 40 <p>If this is set to Default, the <code>LossyCompressionAmount</code> in the LODGroup for the texture is used. If that is also set to Default, then the RDOLambda setting described on this page is used.</p> <p>Note that any distortion introduced is on top of, and likely less than, any introduced by the format itself.</p>
Fast RDO Lambda	<p>Ignored if UsesRDO is false.</p> <p>This value is used if a given texture's <code>LossyCompressionAmount</code> is set to Default.</p> <p>Otherwise, the value of <code>LossyCompressionAmount</code> is translated into a fixed lambda (see Uses RDO settings on this page).</p> <p>Low values lead to higher quality results. A value of 1 amounts to the least distortion.</p>
Fast Effort Level	<p>Specifies how much time to take trying for better encoding results.</p> <p>You can choose from the following options:</p> <ul style="list-style-type: none">Default: Let the encoder decide what's best.Low: Faster encoding, lower quality. This quality level is not recommended for your final packaged project.Normal: Offers a balanced output between encoding time and quality.High: Takes the longest time for the highest quality. This is the recommended setting for nightly builds and unattended cooks.
Fast Universal Tiling	<p>Optimizes texture encoding for tiled texture layouts on disk.</p> <p>This only applies to Oodle with RDO enabled.</p> <p>256 KB is the recommended value for the majority of use cases.</p> <p>Enabling this option decreases the on-disk sizes of textures for platforms with exposed texture tiling (console platforms), but slightly increases texture sizes for platforms with opaque tiling (desktop platforms).</p>

Encode Speeds

Section	Description
Cook Uses Speed	<p>Defines which encode speed non-interactive editor sessions (commandlets) will use.</p> <p>You can choose from the following options:</p>

Section	Description
	<ul style="list-style-type: none">• Final: Use the Final encode speed settings in <code>UTextureEncodingProjectSettings</code>.• Final if Available: Try and fetch the final encode speed settings. If they don't exist, encode with Fast.• Fast: Use the Fast"encode speed settings in <code>UTextureEncodingProjectSettings</code>.
Editor Uses Speed	<p>Defines which encode speed everything else uses.</p> <p>You can choose from the following options:</p> <ul style="list-style-type: none">• Final: Use the Final encode speed settings in <code>UTextureEncodingProjectSettings</code>.• Final if Available: Try and fetch the final encode speed settings. If they don't exist, encode with Fast.• Fast: Use the Fast"encode speed settings in <code>UTextureEncodingProjectSettings</code>.