

Quality Parameters of Gears			
Tooth Thickness	$s_t$	<p>Tooth thickness deviation</p> <p>The tooth thickness <math>s_t</math> results from the difference between the actual and nominal tooth thickness.</p>	
	$f_{H\alpha}$	<p>Profile slope deviation</p> <p>The profile slope deviation <math>f_{H\alpha}</math> is derived from the deviation of the actual slope of the involute of a tooth flank and the nominal slope without influence of the form deviations.</p>	
		$f_{f\alpha}$	<p>Profile form deviation</p> <p>The profile form deviation <math>f_{f\alpha}</math> is derived from the deviation of the actual to the nominal form without the angular influence.</p>
		$F_\alpha$	<p>Total profile deviation</p> <p>The total profile deviation <math>F_\alpha</math> is derived from the superposition of the profile slope deviation and the profile form deviation.</p>
Profile	$f_{H\beta}$	<p>Helix slope deviation</p> <p>The helix slope deviation <math>f_{H\beta}</math> is derived from the deviation of the actual slope of a lead trace to the nominal slope deviation without influence of form.</p>	
		$f_{f\beta}$	<p>Helix form deviation</p> <p>The helix form deviation <math>f_{f\beta}</math> is derived from the deviation of the actual to the nominal form without the angular influence.</p>
		$F_\beta$	<p>Total helix deviation</p> <p>The total helix deviation <math>F_\beta</math> is derived from the superposition of the helix slope deviation and the helix form deviation.</p>
Lead			

Quality Parameters of Gears		
Pitch	$f_p$	<p>Single pitch error</p> <p>The single pitch error <math>f_p</math> is derived from the deviation of the actual and the nominal position of a single transverse pitch, separately evaluated for the left and right flank.</p>
	$F_p$	<p>Total pitch error</p> <p>The total pitch error <math>F_p</math> results from continuous addition of the single pitch errors for left and right flanks.</p>
Runout	$F_r$	<p>Runout error</p> <p>The runout error <math>F_r</math> of a gearing is the radial position deviation of a stylus tip (ball) which is successively placed in all tooth gaps in such a manner that simultaneous contact is made with both the left and right flanks of each tooth gap at the center of the profile.</p> <p>Mostly evaluated out of the pitch measurement.</p>
Tooth Flank Modification		
Profile Corrections	$C_a$	<p>Tip and root relief</p> <p>Tip relief <math>C_a</math> and root relief <math>C_f</math> are an intended additional removal of material in profile direction at the tip and/or root area.</p>
	$C_f$	
	$CH_\alpha$	<p>Profile angle modification</p> <p>The profile angle modification <math>CH_\alpha</math> is an intended angular deviation from the nominal pressure angle.</p>
	$C_\alpha$	<p>Profile crown height</p> <p>Profile crown height <math>C_\alpha</math> is an intentional deviation of the theoretical form in the direction of the profile, so that the actual profile is curved towards the inside of the tooth.</p>

Tooth Flank Modification		
Helix Corrections	$C_{\beta s}$	<p>End relief reference side End relief non-reference side</p> <p>The amount of end relief on the reference side <math>C_{\beta s}</math> and the amount of end relief on the non-reference side <math>C_{n\beta s}</math> are specified as reduction of tooth-thickness at the reference side and/or non-reference side of the tooth flank.</p>
	$C_{n\beta s}$	
	$C_{h\beta}$	<p>Helix angle modification</p> <p>The helix angle modification <math>C_{h\beta}</math> is an intended angular deviation according to the nominal helix angle.</p>
Profile and Helix	$C_\beta$	<p>Helix crown height</p> <p>Helix crown height <math>C_\beta</math> is an intentional deviation of the theoretical tooth flank form in the direction of the face width, so that the actual lead is curved towards the inside of the tooth.</p>
	$R_{fH\alpha}$	<p>Profile twist Helix twist</p> <p>Due to targeted corrections, production influences or heat treat distortion, teeth can have a twist.</p> <p><math>R_{fH\alpha}</math> describes the range of the profile twist. <math>R_{fH\beta}</math> describes the range of the helix twist.</p>
	$R_{fH\beta}$	