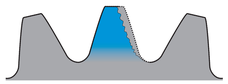
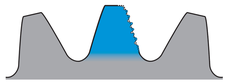
Profile

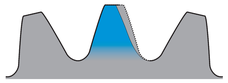
F_{α} Profile deviation, total
Overlay of profile form deviation and profile slope deviation.



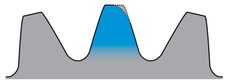
$f_{f\alpha}$ Profile form deviation
Form deviation of the profile without consideration of the slope deviation.



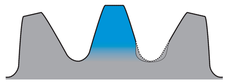
$f_{H\alpha}$ Profile slope deviation
Slope deviation of the profile without consideration of the form deviation.



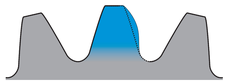
$C_{\alpha a}$ Profile tip relief
Correction of the profile through material removal on the tooth tip. Avoids jamming with the mating gear under load.

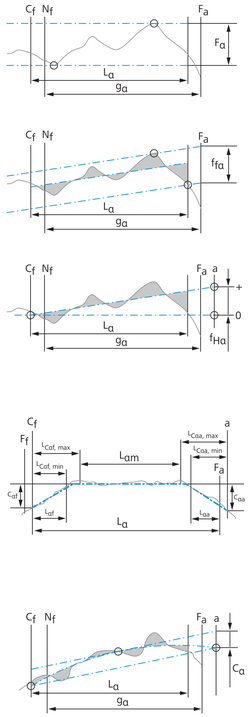


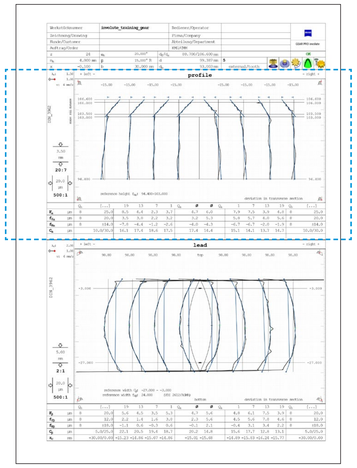
$C_{\alpha f}$ Profile root relief
Correction of the profile through material removal on the tooth root. Avoids jamming with the mating gear under load.



C_{α} Profile crowning
Correction of the profile through convex curvature over a defined range of the tooth height. Compensates for elastic deformations of the tooth under load.



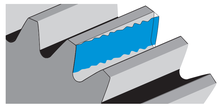




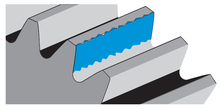
Ff Root form circle
Cf Start of profile evaluation
Nf Start of active profile
Fa Tip form circle
a Tip
ga Length of path of contact
La Profile evaluation length
Laf Profile root relief zone
LCaf Length of profile root relief
Lam Middle profile zone of unmodified profile
Laa Profile tip relief zone
LCaa Length of profile tip relief

Helix

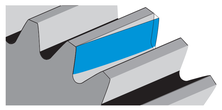
F_{β} Helix deviation, total
Overlay of helix form deviation and helix slope deviation.



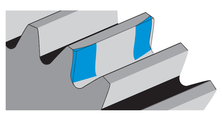
$f_{f\beta}$ Helix form deviation
Form deviation of the helix without consideration of the slope deviation.



$f_{H\beta}$ Helix slope deviation
Slope deviation of the helix without consideration of the form deviation.

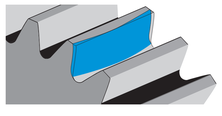


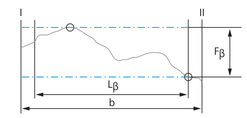
$C_{\beta I}$ Helix end relief at datum face
Correction of the helix through material removal on the flank ends of the datum face. Avoids jamming with the mating gear under load.

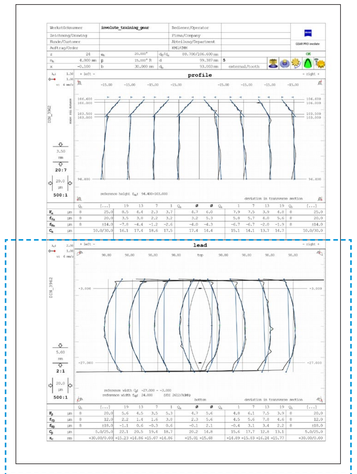


$C_{\beta II}$ Helix end relief at non-datum face
Correction of the helix through material removal on the flank ends of the non-datum face. Avoids jamming with the mating gear under load.

C_{β} Helix crowning
Correction of the helix through convex curvature over the face width. Compensates for elastic deformations of the tooth under load.



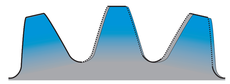


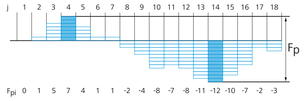


I Datum face
II Non-datum face
b Face width
Lβ Helix evaluation length
LβI Helix end relief zone (datum face)
LcI Length of helix end relief (datum face)
LβIIm Middle helix zone of unmodified helix
LβII Helix end relief zone (non-datum face)
LcII Length of helix end relief (non-datum face)

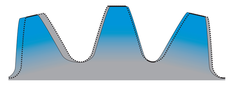
Pitch

F_p Cumulative pitch deviation, total
Range of the positional deviation of all right (left) flanks to the nominal position, with the flanks being analyzed independently.

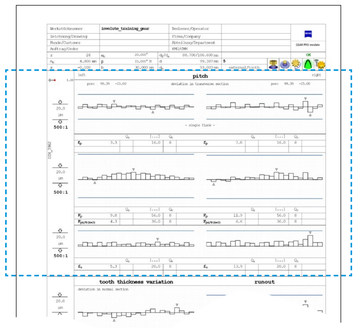




f_p Single pitch deviation
Greatest unsigned positional deviation of all individual right (left) flanks to the preceding right (left) flank.

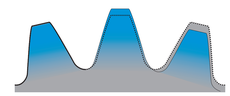


f_u Adjacent pitch difference
Greatest unsigned difference of all individual single pitch deviations of all right (left) flanks.

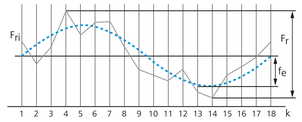


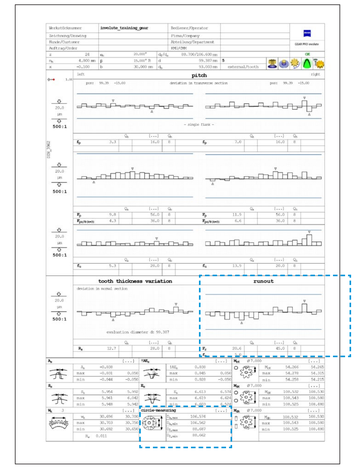
Radial runout

F_r Radial runout deviation
Range of the radial positional deviation of all gaps. Measured by placing a measuring sphere on both flanks of all gaps.



f_e Eccentricity
Eccentricity of the gearing to the reference system axis (bore/shaft).

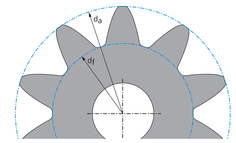




Diameter

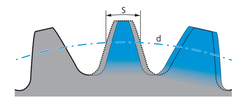
d_a Tip circle diameter
Greatest (smallest) diameter of an external gear (internal gear) at the tooth tip.

d_f Root circle diameter
Smallest (greatest) diameter of an external gear (internal gear) at the tooth root.

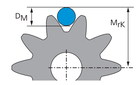


Tooth thickness

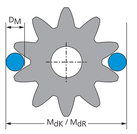
s Tooth thickness
Arc length of the distance of a right to a left flank in a transverse section plane on the reference diameter.



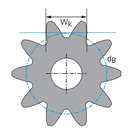
M_{rK} Radial dimension over/between one ball
Radial distance of the gear axis to the outermost (innermost) point of a defined measuring sphere fitted in a gap on both flanks of an external gear (internal gear).

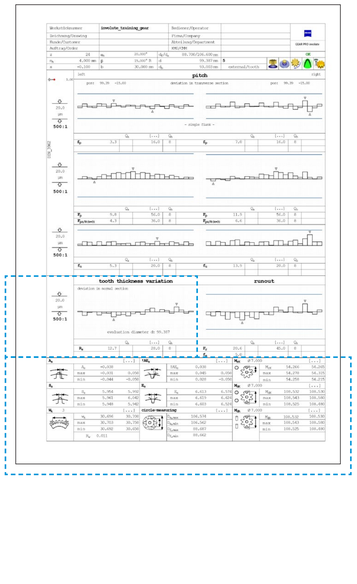


M_{dK} Diametral dimension over/between two balls
M_{dR} Diametral dimension over/between two pins
Greatest outermost (smallest innermost) distance of two defined measuring spheres/pins (cylinder) fitted in two opposing gaps on both flanks of an external gear (internal gear).



W_k Base tangent length over k teeth (gaps)
Distance of two parallel measuring planes that intersect a right and left flank over k teeth (gaps) of an external gear (internal gear) and also lie in a tangential plane on the base circle.





i Individual value
j Flank number
k Tooth/gap number
n Pitch number
d Reference diameter
d_B Base diameter
D_M Diameter of the measuring ball/pin (cylinder)

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