

PROFILE 3 LEVELS

TOP OF TOOTH

The screenshot displays the ZEISS CALYPSO software interface. The main window shows a 3D model of a gear tooth with a profile measurement setup. The 'PROFILE SETUP' dialog box is open, showing the following configuration:

- Standard evaluation:** Evaluation settings, Evaluation according to: JIS_B1702, All characteristics tolerated acc. to class: 8.
- Tolerances On/Off:** Activate/inactivate tolerance evaluation, Calculation of actual tolerance class enabled/disabled.
- Tolerance table:**

Tol. standard association values	Mean value limits		
	Quality	Max. Min.	
<input checked="" type="checkbox"/> Profile form error (fa)	<input checked="" type="checkbox"/>	0.05	
<input checked="" type="checkbox"/> Profile form error (fpa)	<input checked="" type="checkbox"/>	0.015	
<input checked="" type="checkbox"/> Angular profile error (fpa)	<input checked="" type="checkbox"/>	0.015	0.015
<input checked="" type="checkbox"/> Profile crowning (Cn)	<input checked="" type="checkbox"/>	0	0
<input checked="" type="checkbox"/> Profile - position of high point (pc)	<input checked="" type="checkbox"/>		
<input checked="" type="checkbox"/> Profile - tip relief value (Ca)	<input checked="" type="checkbox"/>		
<input checked="" type="checkbox"/> Profile - root relief value (Cr)	<input checked="" type="checkbox"/>		
<input checked="" type="checkbox"/> Profile - tip relief and crowning combined (Ca+Cn)	<input checked="" type="checkbox"/>		
<input checked="" type="checkbox"/> Profile - variation angular deviation (vafpa)	<input checked="" type="checkbox"/>		
<input checked="" type="checkbox"/> Profile - tolerance band overrun (K)	<input checked="" type="checkbox"/>		
<input checked="" type="checkbox"/> Profile form error 1 (fa_1n)	<input checked="" type="checkbox"/>		

The dialog box also includes a list of characteristics with 'On/Off' checkboxes and 'Setting Characteristic' dropdowns. Buttons for 'Arrange', 'Reset feature list', 'Header', and 'User-defined values' are visible at the bottom of the dialog. The background shows a 3D model of a gear tooth with a 20 mm scale bar.

MIDDLE OF TOOTH

MEASURING RUN / Profile / Lead / Index (Std)

Control validity

Tooth / Stylus selection

- Arrange over
- One tooth
- All teeth
- Selected teeth
- Measuring sectors

Teeth 1 13 26 38 0
Styl 2 2 2 2 0

Stylus system name 1.0 mm

Manual stylus selection

Stylus

Semi-automatic stylus selection

Automatic stylus selection

Element selection

Left flank

Reference side

Root

PROFILE SETUP

Standard evaluation | Measuring run | Tolerances / Characteristics

Evaluation settings

Evaluation according to JIS_B1702

All characteristic toleranced acc. to class 8

Individual selection

Characteristics

Tolerances On/Off

Activate/deactivate tolerance evaluation

Calculation of actual tolerance class enabled/disabled

Characteristic	On/Off	Tol. standard association values		User-defined values	
		Quality	Max. / Min.	Max.	Min.
Profile form error (fa)	<input checked="" type="checkbox"/>	0	0.015	0.015	
Angular profile error (fHa)	<input checked="" type="checkbox"/>	0	0.015	0.015	-0.015
Profile crowning (Ch)	<input type="checkbox"/>				
Profile - position of high point (dc)	<input checked="" type="checkbox"/>				
Profile - tip relief value (Ca)	<input checked="" type="checkbox"/>				
Profile - root relief value (Cr)	<input checked="" type="checkbox"/>				
Profile - tip relief and crowning combined (Ca+Cr)	<input checked="" type="checkbox"/>			0	0
Profile - variation angular deviation (fHa)	<input checked="" type="checkbox"/>			0	0
Profile - tolerance band overrun (k)	<input type="checkbox"/>				
Profile form error 1 (fa_1)	<input type="checkbox"/>			0	

Buttons: Arrange, Reset feature list, Header, Mean value limits, OK, CANCEL, Apply

GLOBAL TECHNOLOGY | SETUP EVALUATION

For Help, press F1 | Basic function

20 mm

BOT OF TOOTH ~~WAVE~~

The screenshot shows the ZEISS GEAR PRO 2014 software interface. The main window is titled "MEASURING RUN Profile / Lead / Index (Std)". A "PROFILE SETUP" dialog box is open, showing the "Tolerances / Characteristics" tab. The dialog is configured for a "JIS_B1702" standard. The "Tolerances On/Off" section is active, showing a list of characteristics with their respective tolerance values and checkboxes for On/Off. The characteristics listed include Form error (Fa), Angular profile error (fpa), Profile crowning (Cq), Profile - position of high point (hc), Profile - tip relief value (Ca), Profile - root relief value (Cr), Profile - tip relief and crowning combined (Ca+Cq), Profile - variation angular deviation half (Hs), Profile - tolerance band overrun (k), and Profile form error (Fp_jr).

Character	On/Off	Quality	Max.	Min.	Mean value limits
Form error (Fa)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0.038		0.015
Angular profile error (fpa)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0.015	0.015	
Profile crowning (Cq)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		0	
Profile - position of high point (hc)	<input type="checkbox"/>	<input type="checkbox"/>			
Profile - tip relief value (Ca)	<input type="checkbox"/>	<input type="checkbox"/>		0	
Profile - root relief value (Cr)	<input type="checkbox"/>	<input type="checkbox"/>		0	
Profile - tip relief and crowning combined (Ca+Cq)	<input type="checkbox"/>	<input type="checkbox"/>			
Profile - variation angular deviation half (Hs)	<input type="checkbox"/>	<input type="checkbox"/>			
Profile - tolerance band overrun (k)	<input type="checkbox"/>	<input type="checkbox"/>			
Profile form error (Fp_jr)	<input type="checkbox"/>	<input type="checkbox"/>			

For Help, press F1

Basic function

Cancel measurement with the STOP key