

Carl Zeiss Industrielle Messtechnik GmbH

## Training Schedule CALYPSO GD&T Training

Revision CALYPSO 2022 No.: 611501-2663-000	Company: Name: First name:
<ul> <li>Prerequisites::</li> <li>CALYPSO Basic Training</li> <li>AUKOM GD&amp;T</li> <li>CALYPSO Advanced recommended</li> </ul>	This class:• Teaches the use of GD&T in CALYPSO.• Duration: 2 days• Recommended in one of our customer centers• Mon:10:00 am - 04:00 pmTue, Wed, Thu:08:00 am - 04:00 pmFri:08:00 am - 01:00 pmBreaks:09:30 - 09:45 am, 12:00 - 12:45 pm• From 04:00 pm exercise without trainer possible• Provides course related materials

1st and 2nd day	Comprehension				Comprehension				
Information about Training schedule Training content				Roundness Roundness of bores Roundness of a cone Roundness with reference angle	٢		8		
Introduction <ul> <li>Measuring and analyzing with CAL</li> <li>Filter and Outliers</li> <li>Filter - cut-off and transmission rar</li> </ul>	YPSO			Cylinder form References	٢	٢	3		
<ul> <li>Evaluation methods</li> <li>Cookbook and standards</li> </ul>				<ul> <li>Formdeviation at the datum</li> <li>Step cylinder as datum</li> <li>Parallel cylinder as datum</li> <li>Datum - blocked degrees of freedem</li> </ul>					
Form test Straightness	$\odot$		$\overline{\mathbf{S}}$	Datum - blocked degrees of freedom	I				
<ul> <li>Straightness of plane</li> <li>Straightness of axis</li> <li>Straightness of surface lines</li> <li>Straightness from axes with comm</li> </ul>	on tolerand	ce zor	ne	Directional errors Parallelism Axis - Axis Axis - Plane	١		$\odot$		
Flatness Flatness of planes Flatness of symmetry planes Flatness with reference length	٢		8	<ul> <li>Plane - Axis</li> <li>Plane - Plane</li> <li>Parallelism of 2 surface lines</li> </ul>					



1st and 2nd day	Comprehension			Co	Comprehension			
Perpendicularity Perpendicularity with "Zero (M)" Reciprocity condition in CALYPSO	٢		8	Symmetry Symmetry plans and mid-planes Symmetry cross borehole to mid-axis	٢	٢	3	
Angularity Plane/Plane Cylinder/Plane	٢		8	Runout errors Axial runout Total axial runout Radial runout Total radial runout	٢	٢	$\odot$	
Location errors Position Tolerance zones Reference systems Bore pattern ISO and ASME	٢		8	Form errors Form error of a feature Curve form Line form and Profile form Profilform: Toleranzform und Zeichnung	© seinti	œ	8	
Coaxiality Two bearing seats/ common reference Concentricity MMC and LMC	© ence	٢	8	Compound tolerances	٢	٢	$\odot$	
<ul> <li>Coaxiality with MMC und LMC</li> <li>Perpendicularity with MMC and "Zero t</li> <li>Coaxiality with LMC at a sleeve</li> <li>Projected tolerance zone</li> </ul>	Zero tolera	nce"		Review How the trainer evaluates the class How the participants evaluate the class	٢	٢	٢	