



Laser Scanning Case: Cast Iron part

- Cast iron part
- Shape inspection wanted
- Measuring by laser scanning
- Scanning time couple of hours
- Scanner Faro Platinum measuring arm with the scanner head, device accuracy 0.080mm, total accuracy better than 0.1mm



Cast iron part



Laser scanning measuring arm



Laser Scanning Case: Cast Iron part

- Point cloud cleaned and edited to mesh
- Engineering 3D model as a reference
- Scanned data positioned with the reference model
- Shape inspection by comparing scanned data with the engineering data



Point cloud



Reference model

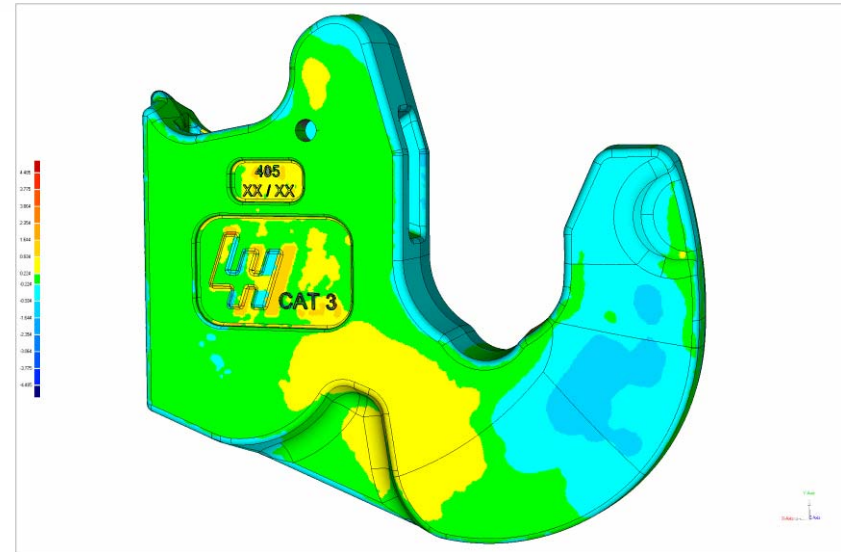


Mesh



Laser Scanning Case: Cast Iron part

- Results as coloured charts with dimension data
- 2D section cuts
- Analyzing reports
- Office work around 10 hours
- Free viewer for exploring all the materials created



Coloured chart

QUALIFY 3D Comparison Results Date: 01/2008

Reference Model	051-001.M
Scan Model	050001
# Data Points	1000764
# Features	2024

Tolerance Type	3D Deviation
Reference	mm
Upper Critical	4.485
Lower Critical	-4.485
Upper Nominal	0.000
Lower Nominal	-4.485

Deviation	mm
Min. Upper Dev.	4.485
Min. Lower Dev.	-4.485
Avg. Dev.	0.000
Std. Dev.	0.000

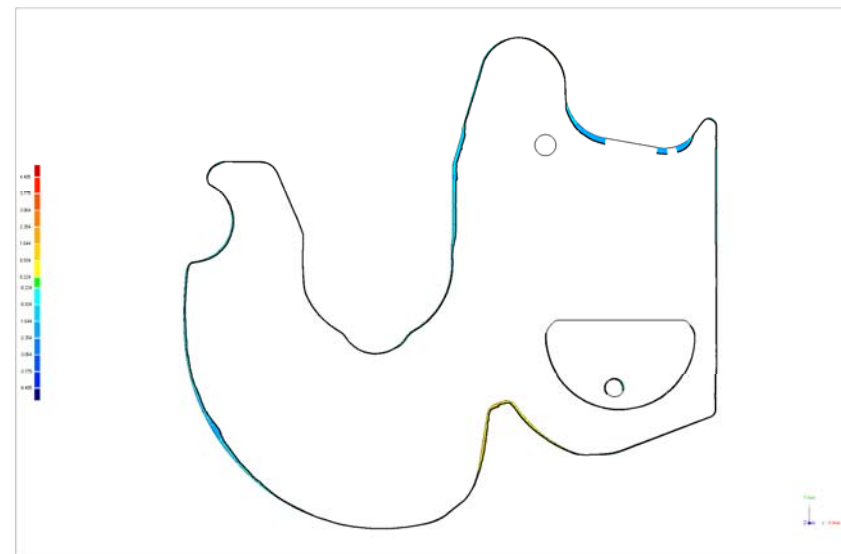
Feature	Value	# Points	%
4.485	3.795	16	0.16
3.795	3.264	27	0.27
3.264	2.732	50	0.50
2.732	2.201	91	0.91
2.201	1.669	156	1.56
1.669	1.138	297	2.97
1.138	0.606	652	6.52
0.606	0.074	1485	14.85
0.074	-0.458	1012	10.12
-0.458	-1.000	506	5.06
-1.000	-1.542	209	2.09
-1.542	-2.084	88	0.88
-2.084	-2.626	31	0.31
-2.626	-3.168	11	0.11
-3.168	-3.710	4	0.04
-3.710	-4.252	1	0.01

Deviation	Value	# Points	%
3.710	2.918	16	0.16
2.918	2.386	27	0.27
2.386	1.854	50	0.50
1.854	1.322	91	0.91
1.322	0.790	156	1.56
0.790	0.258	297	2.97
0.258	-0.274	652	6.52
-0.274	-0.806	1485	14.85
-0.806	-1.338	1012	10.12
-1.338	-1.870	506	5.06
-1.870	-2.402	209	2.09
-2.402	-2.934	88	0.88
-2.934	-3.466	31	0.31
-3.466	-4.000	11	0.11
-4.000	-4.532	4	0.04
-4.532	-5.064	1	0.01

Out of Spec. Critical: 0 of 2000
Out of Spec. Non-Critical: 0 of 2000

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Inspection report



2D section cut