Plate Load Test AX01 Overview

The AX01 Plate Load Test (or Plate Bearing Test) is an insitu site investigation field test used to determine the ultimate bearing capacity of the ground and the likely settlement under a given load. It is designing for measuring static loads on spread footings (e.g. to determine whether the ground has sufficient bearing capacity to support structures or temporary cranes or piling rigs), and for repetitive plate loading tests of soils and flexible pavement sub grades.

The AX01 provides immediate repeatable results so that on-site decisions can be made straight away.

Site characterisation is unarguably the most important, but also most “difficult”, component of geo-engineering. The AX01 Plate Load Test is designed to improve the quality of site characterisation and reduce the difficulties involved.

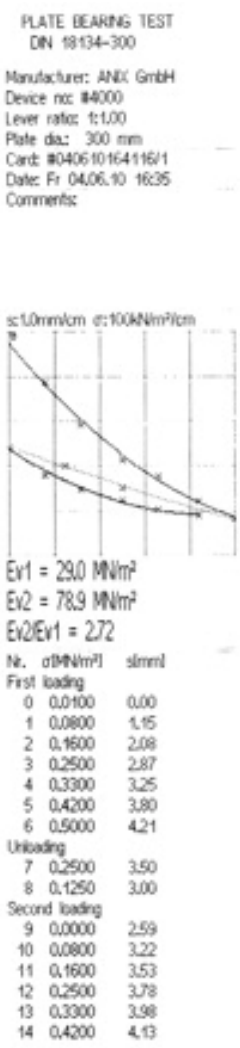


PLATE BEARING TEST
DIN 18134-300

Manufacturer: ANX GmbH
Device no: #4000
Lever ratio: 1:1,00
Plate dia.: 300 mm
Card: #040610164116/1
Date: Fr 04.06.10 16:35
Comments:

s:1,0mm/cm σ:100kN/m²/cm

Ev1 = 29,0 MN/m²
Ev2 = 78,9 MN/m²
Ev2/Ev1 = 2,72

Nr.	σ[MN/m²]	s[mm]
First loading		
0	0,0100	0,00
1	0,0800	1,15
2	0,1600	2,08
3	0,2500	2,87
4	0,3300	3,25
5	0,4200	3,80
6	0,5000	4,21
Unloading		
7	0,2500	3,50
8	0,1250	3,00
Second loading		
9	0,0000	2,59
10	0,0800	3,22
11	0,1600	3,53
12	0,2500	3,78
13	0,3300	3,98
14	0,4200	4,13

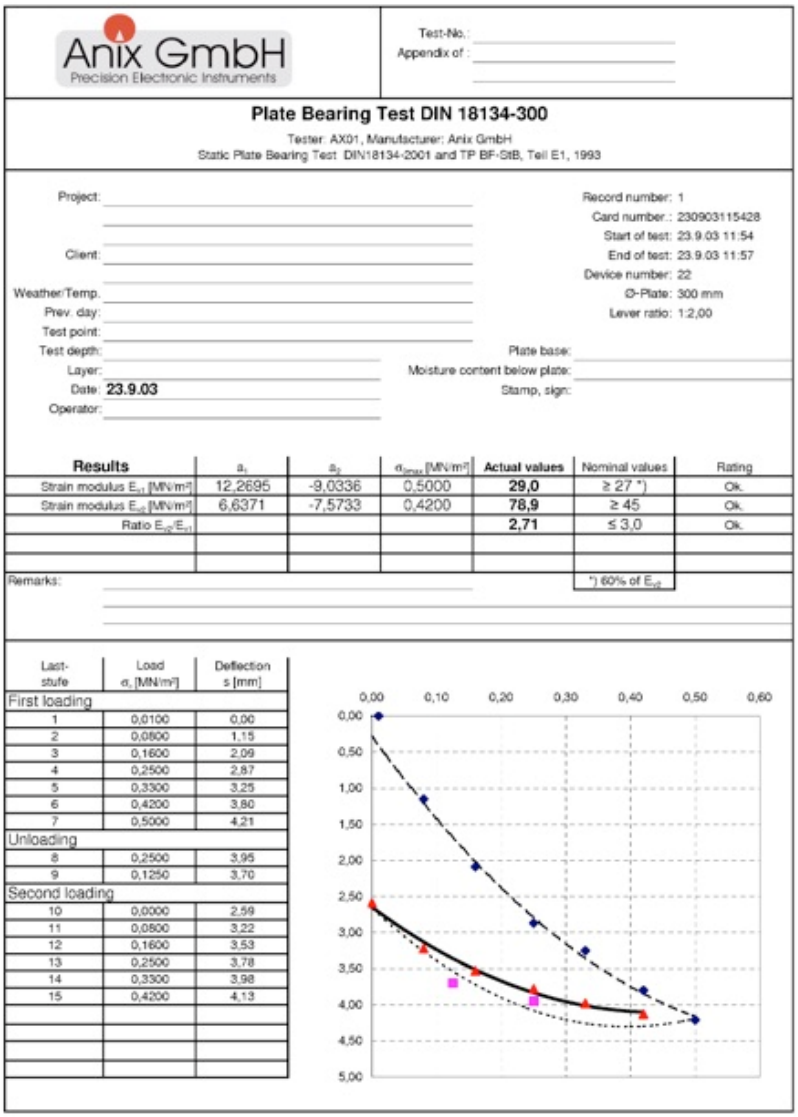
The AX01 Plate Load Test from is used to determine:

- Load-settlement (deflection) curve
- Strain moduli of the first and the second loading cycle, Ev1 and Ev2 (an indicator for the bearing capacity of the soil under the loading plate)
- Modulus of subgrade reaction, ks (a measure of the stiffness)
- Ratio Ev2/Ev1 (a figure for the compaction level)

The unit is designed according to DIN 18134: 2012-04 and is normally used to measure the short-term settlement of road sub-grade or building footings under their proposed design load. The value of settlement against load is then used to check that the soil meets design load settlement criteria. The test therefore is of use to both contractors and to specifying authorities.

The advantages of the AX01 Plate Load Test include:

- Safer operation compared to ‘old style plate load test with dial gauges’ as operator is not under the counter weight taking readings
- Short operation time (approx 25-30 mins including setup per test)
- Electronic evaluation means no further data analysis required, saving significant time
- Immediate printing



Anix GmbH
Precision Electronic Instruments

Test-No.:
Appendix of :

Plate Bearing Test DIN 18134-300

Tester: AX01, Manufacturer: Anix GmbH
Static Plate Bearing Test DIN18134-2001 and TP BF-StB, Teil E1, 1993

Project:
Client:
Weather/Temp.:
Prev. day:
Test point:
Test depth:
Layer:
Date: 23.9.03
Operator:

Record number: 1
Card number.: 230903115428
Start of test: 23.9.03 11:54
End of test: 23.9.03 11:57
Device number: 22
Ø-Plate: 300 mm
Lever ratio: 1:2,00

Plate base:
Moisture content below plate:
Stamp, sign:

Results	a_1	a_2	σ_{1max} [MN/m²]	Actual values	Nominal values	Rating
Strain modulus E_{v1} [MN/m²]	12,2695	-9,0336	0,5000	**29,0**	≥ 27 *)	Ok.
Strain modulus E_{v2} [MN/m²]	6,6371	-7,5733	0,4200	**78,9**	≥ 45	Ok.
Ratio E_{v2}/E_{v1}				**2,71**	≤ 3,0	Ok.

Remarks:

*) 60% of E_{v2}

Last-stufe	Load σ_1 [MN/m²]	Deflection s [mm]
First loading		
1	0,0100	0,00
2	0,0800	1,15
3	0,1600	2,09
4	0,2500	2,87
5	0,3300	3,25
6	0,4200	3,80
7	0,5000	4,21
Unloading		
8	0,2500	3,95
9	0,1250	3,70
Second loading		
10	0,0000	2,59
11	0,0800	3,22
12	0,1600	3,53
13	0,2500	3,78
14	0,3300	3,98
15	0,4200	4,13

Applications for this non destructive plate bearing test method for measuring bearing capacity and compaction control include flexible pavements, unsealed roads and mine access roads, tunnels, railway track beds, airport runway and taxiways, hard standing areas, dam construction, canal building, wind farms, building foundations, pipe laying and tank farms. For example, the Plate Load Test is used to determine whether the ground has sufficient bearing capacity to support a given structure such as temporary pads for crane outriggers or piling rigs. It is very useful for mobile crane operators and piling rig contractors to check potential settlement of crane pads or mats under full load before the mobile crane or piling rig is sited or when traversing the site. The results of a Plate Load Test will enable you to calculate the size of outrigger spreader plates or mats required, and the ground movement that can be expected.

Clients include those involved in pavement construction, pavement rehabilitation, material testing, geotechnical testing and site investigation and include road authorities, councils, asset managers, mines, engineering and construction groups, mobile crane operators and piling rig contractors, geotechnical consultancies and research organisations.

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