Bijlage specificatie f25 files

25SI.DOC

Dynatest FWD FIELD PROGRAM, Edition 25.

The INTENDED METRIC Fwd Data File Format.

This format is NOT compatible with earlier 10.XX and 20.XX programs.
If compatibility is a must, you should see FILE-20.DOC, R32-80.DOC
or SHRP.DOC, which describe the backwards compatible data file formats.

The new preferred '25SI' file format produces metric files that are
directly 'Importable' to most spread sheet software and 'easily'
readable by dedicated software. This is accomplished thru the following
main features:

Items are separated by a comma character.
Text items are quoted.
Each line is prefixed (the very first item on the line) by a
'Line-ID-Number' which is the 'key' to the contents of the line.

FWD Data File Type: SEQUENTIAL UASCII Text File (Line length vary).

A file consists of 40 lines of "Header" information followed by
TEST DATA, Comments, 'Histories' etc.
Optional Global Positioning data are stored BEFORE the related FWD test
sequence data (also see GPS.DOC).

Items are located within fixed fields indicated by [X,Y], which defines
the first and last character positions.

Text data is stored exactly as entered by the operator, i.e. leading
and trailing spaces may appear.
Numbers are right justified except for the special Nil value ('No use'
number) which is stored as "N0" followed by spaces.
Units Temperatures, Pressure, Deflections etc. are stored Metrically.
Stations are either Numeric (no particular unit)
Location (meters,km,miles,feet etc.)
Lane is Numeric or Location type.

Geographic Latitude is positive North. Longitude is positive east.
Both are floating point degrees (optionally DegøMn.xxxx or
DegøMn'Sc.x)
GPS height is meters, always.

IMPORTANT: The system does not currently include an EDITOR which assures
integrity with the format as outlined herein. So, if you intend
to edit fwd data files AND process edited files by any Dynatest
program, please observe the following:
TABulator OPTIMIZATION must be avoided/suppressed and
INSert/DELete should be used with great care.

Common to ALL lines is the Line ID number position [1,4].

1. Program Version
5001,25.08,1,40, 3, 1,"January 93 "
[6, 10] 25.08 Program Edition
[12, 12] 1 No of Headers (ONE always)
[14, 15] 40 No of Lines in Header
[17, 18] 3 Lines per Station Id
[20, 21] 1 Lines per Drop
[24, 39] Jan... Program Comment

2. Primary 'Files'
5002,"25SIN ","8002-XXX","9000-XXX"
[7, 14] 25SIN Data Format Setup File
[18, 25] 8002-XXX Trailer File
[29, 36] 9000-XXX Processor File

3. Secondary 'Files'

5003,"JOHN ","STANDARD","TESTFILE","F25"

[7, 14] JOHN Operator File
[18, 25] STANDARD Test Setup File
[29, 36] TESTFILE The Name of THIS data file
[40, 42] F25 The extension of THIS data file

TESTFILE.F25 holds the ORIGINAL file name in case of renaming.

4. Units & History option

5010,0,0,0,0,0,0,0,3,0,0,0,0,0,0,0,0,0,0,0,0,"H25"

[6, 6] 0 Temperature
[8, 8] 0 Spare
[10, 10] 0 Weight(Mass)
[12, 12] 0 Spare
[14, 14] 0 Deflection
[16, 16] 0 Distance
[18, 18] 0 Spare
[20, 20] 3 Location
[22, 22] 0 Geographic angle
[24, 24] 0 Force
[26, 26] 0 Pressure
[28, 28] 0 Heavy Pressure
[30, 30] 0 Spare
[32, 32] 0 Spare
[34, 34] 0 Angle (Rad, Deg)
[36, 36] 0 Spare
[38, 38] 0 Spare
[40, 40] 0 Spare
[42, 42] 0 Spare
[44, 44] 0 Spare
[46, 46] 0 History Mode, 0=ASCII 1=BINARY (separate file)
[49, 51] H25 History File Extension

5. Date and Time

5011,0,1,,1991,06,05,14,07,4,"Tue",143

[6, 6] 0 Date
[8, 8] 1 Time
[10, 20] 19910605 Date
[11, 14] 1991 Year
[16, 17] 06 Month
[19, 20] 05 Day
[22, 26] 2006 Time
[22, 23] 14 Hour
[25, 26] 06 Minute
[28, 28] 4 Day of week (0=Sun)
[31, 33] Tue Litteral Day of week
[36, 38] 143 Julian Date

6. Load Cell

5200,"XX1 ",2,1.000,89.00, 0.02, 7.129

[7, 14] XX1 Load Cell File
[17, 17] 2 Type
[19, 23] 1.000 Relative Gain
[25, 29] 89.00 Absolute Gain
[31, 36] 0.02 Unbalanced Zero
[38, 44] 7.130 Shunt Value

7. Center SD

5201,"0231 ",4,1.000,1.000

[7, 14] 0231 SD 1 (File)
[17, 17] 4 Type
[19, 23] 1.000 Relative Gain
[25, 29] 1.000 Absolute Gain

Lines 8..24 hold SD 2 to 18 similar to Line 7.

25. Plate Radius and X-Positions

5020, 150, 0, 200, 300, ...

[6, 11] 150 Radius of Plate
[13, 18] 0 X 1

[20, 25] 200 X 2
[27, 32] 300 X 3
.
.
[132,137] X18

26. Diameter of Plate and Y-Positions
5021, 300, 0, 0, 0, ...
[6, 11] 300 Diameter of Plate
[13, 18] 0 Y 1
[20, 25] 0 Y 2
[27, 32] 0 Y 3
.
.
[132,137] Y18

27. 'Other' Physicals
5022,0, 200, 201, 45, 97, 195, 386
[6, 6] 0 Plate Type: 0=Standard 1=Split Plate
[8, 11] 200 Loading Mass
[13, 16] 201 Mass (sensed)
[18, 22] 45 Height ONE
[24, 28] 97 Height TWO
[30, 34] 195 Height THREE
[36, 40] 386 Height FOUR

28. Station and Lane Information
5023,1,4,2, 23.800, 31.200, 31.200, 0.200, 0.200,1,1
[6, 6] 1 Station is always 1=Numeric (0=Alpha)
[8, 8] 4 Numeric Stn is: 1=Real 2=Loaction
3=DMI 4=DMI Rounded
[10, 10] 2 Step Mode: 0=None 1=Fixed 2=Logical
[12, 19] 23.800 Min Station
[21, 28] 31.200 Max Station
[30, 37] 31.200 Previous Station
[39, 46] 0.200 Station Step
[48, 55] 0.200 DMI Rounding
[57, 57] 1 Lane is always 1=Numeric (0=Alpha)
[59, 59] 1 Numeric Lane is: 1=Real 2=Location

29. Test Setup Options
5024,0,1,1,1,1,1, 0, 0.0, 0, 0.0,0,0,0, 120
[6, 6] 0 Station Prompt
[8, 8] 1 Temperature Prompt(s)
[10, 10] 1 Condition Prompt
[12, 12] 1 Reject Prompt
[14, 14] 1 Decrease Check
[16, 16] 1 Roll Off Check
[18, 23] 0 Pressure Variation
[25, 28] 0.0 Pressure Variation %
[30, 35] 0 Deflection Variation
[37, 40] 0.0 Deflection Variation %
[42, 42] 0 Temperatures "Keep"
[44, 44] 0 Smoothing
[46, 46] 0 History Smoothing
[48, 51] 120 Cut off (Hz)

30. No of Sequences, Drops total
5029, 4, 12, 120, 683
[6, 13] 4 Sequences stored
[15, 22] 12 Drops stored
[24, 31] 120 Sequences
[33, 40] 683 Drops

31. Operator Name
5030,"John "
[7, 38] John

32. Roadway Id
5031,"273.1864VV KARSTENSGADE "
[7, 66] Roadway Name

33. Subsection Id
5032,"test1 "
[7, 66] Subsection Id

Lines 34-35-36 present the 'Station Information' at the time
of File Closing.

34. Station Id.
5301,0,1,4,3, 31.500,1,1, 3,1991,06,05,20,07
[6, 6] 0 Side of Road
[8, 8] 1 Numeric Station (fixed)
[10, 10] 4 1:Real 2:Chainage 3:DMI 4:DMI Rounded
[12, 12] 3 Chainage/DMI units
2:meters 3:km 4:km extended
5:feet 6:yards
7:miles 8:miles extended 9:miles.feet
[14, 21] 31.500 Station
[23, 23] 1 Numeric Lane (fixed)
[25, 25] 1 1:Real 2:Distance (Chainage type)
[27, 34] 3 Lane
[36, 45] 19910605 Date
[36, 39] 1991 Year
[41, 42] 06 Month
[44, 45] 05 Day
[47, 51] 20,06 Time
[47, 48] 20 Hour
[50, 51] 06 Minute

35. Comments
5302,0,0,0,1,0,0,0,0,"Closin' this file NOW !! "
[6, 6] 0 Weather
[8, 8] 0 Sunlight
[10, 10] 0 Pavement
[12, 12] 1 Cracks
[14, 14] 0 E
[16, 16] 0 F
[18, 18] 0 G
[20, 20] 0 H
[23, 82] Closin' this file NOW !!

36. Temperatures
5303,0, 24.0, 27.0, 25.0
[6, 6] 0 Temperature: 0='C 1='F
[8, 12] 24.0 Asphalt
[14, 18] 15.0 Surface
[20, 24] 14.0 Air

Lines 37..40 are the most resently used Comments1..4.

37. 5041,"Previous test: .....
[7, 82] Comment 1
.
.
40.

---------- END of HEADER ----------

TEST data are stored chronologically from line 41 and up in groups of:
Optional GPS information.
'Station Information' as lines 34,35,36 above and
one or more lines of Load and Deflection PEAK READINGS.

GPS Navigation Results:
12345678901234567890123456789012345678901234567890
5280,0,400743,+90.0000000,+180.0000000,999.9
[6, 6] 0 Failure Cause
1: Too few satellites
2: DOPs too large
3: Position STD too large

4: Velocity STD too large
5: Too many iterations for velocity
6: Too many iterations for position
7: 3 sat startup failed
8: Initial Acq.
9: Timeout
[8, 13] 400743 UTC time, seconds into the week (0..604800)
[15, 25] +90.0000000 Latitude (degrees, real)
[27, 38] +180.0000000 Longitude (degrees, real)
[40, 44] 999.9 Height (meters, always)

Raw GPS data:
12345678901234567890123456789012345678901234567890
5281," 1 .....
[6, 6] " Text string begins
[7, 10] 1 Magnavox record number (1,311,8,308 or 969)
[11, ?] ???? See GPS.DOC and Magnavox manual.
All positions are offset six places compared to Magnavox Raw
data layout.
Line-ID-Numbers 5281..5286 are for each of receiver channels
one to six record 1 (valid) or record 311 (invalid) data.
5287 is for record 8 'Position & Velocity'.
5288 is for record 308 'Navigation Failure'.
5290 is for record 969 'Time recovery'.

Load and Deflection PEAK READINGS:

1, 574, 434, 396, 375, 337, ...
2, 1194, 907, 828, 776, 712, ...
3, 1677, 1283, 1155, 1095, 1001, ...

[1, 4] 1 Sequence Step No is 'Line ID Number'
[6, 11] 574 Peak Load (kPa)
[13, 18] 434 Center Deflection
[20, 25] 396 SD2 Deflection
[27, 32] 375 SD3 -
.
.
[132,137] --- SD18 Deflection

The width of these lines is ruled by the HIGHEST numbered AVAILABLE
Deflector in the system.

Comments and "Sensor History Blocks" may precede or follow any
group of TEST data.

Four dedicated Comment 'Objects' (7901..7904) are available:

7901,"Previous test: .....
[1, 4] Object 'Number'
[7, 82] Comment 1 text

As you may have guessed at this point, MOST 'Line Id numbers' are actually
'Object Indexes'.
The operator may store the value of ANY highlight-able object to the File.
The general shape of such 'Comment' lines is:

ObNo,Value
[1,4] Object number (5001..9999)
[6,?] Value, Text Values are quoted, Numerics are not.

Sensor History Blocks:

5185,0,1,4,3, 31.500,1,1,N0 ,,1991,06,05,14,07, 1, 750, 80, -1
[1, 4] 5185 History Line ID Number
[5, 51(55)] As Station Id (see Header line 34 (5301))

Add four to the following positions for ALPHA type Stationing.

[53, 54] 1   Sequence Step
[56, 59] 750 Line count (Samples per Channel)
[61, 64] 80 Time step (uSec 'per Line')
[66, 75] -1   File Position (base ZERO)

If the File Position is -1 history is stored ASCII wise in THIS file
otherwise History is stored BINARY to a 'Parallel' File.
ASCII: The History 'Prefix' line above is followed by 'Line Count'
lines laid out as ordinary PEAK lines:

1001, 0, 0, 0, 0, 0, ...
1002, 1, 0, 0, 0, 0, ...
1003, 1, 1, 0, 0, 0, ...
.
.
1750, 1, 10, 7, 7, 4, ...

[1,4] is Line no's 1001 to 1750 (typ)

BINARY: see BINHIST.DOC