

TOUGH

Training Courses



Code Installation

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Compiling Source Code

- Source code for TOUGH2 v2.1 consists of FORTRAN77 files, such as t2cg22.f, meshm.f, t2f.f, t2fm.f, t2solv.f, and eosx.f (one of the equation-of-state modules)
- Dimension major arrays in T2
- May need to adjust machine-dependent subroutines (e.g., CPU-time)
- May need to rename duplicate subroutines
- Compile source files to create EOS-specific executable (e.g., t2_X.exe) that links core and EOS module (eosX.o)

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Excerpt from T2

```

C*****
C***** file 'T2' for module t2cg22.f of TOUGH2, Version 2.1 *****
C*****
C*
C*   ASSIGN PARAMETERS FOR FLEXIBLE DIMENSIONING OF LARGE ARRAYS   *
C*
C*****
C
C
C   IMPLICIT DOUBLE PRECISION(A-H,O-Z)
C
C
C--- MNEL: Number of elements
    PARAMETER (MNEL = 12000)
C
C--- MNCON: Number of connections
    PARAMETER (MNCON = 25000)
C
C--- MNEQ: Number of equations per element (# of Primary variables)
    PARAMETER (MNEQ = 4)
C
C--- MNK: Number of components
    PARAMETER (MNK = 3)
C
C--- MNPH: Number of phases which can be present
    PARAMETER (MNPH = 3)
C
C--- MNB: Number of phase-dependent secondary variables
    PARAMETER (MNB = 8)
...

```

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Installation for Short Course

- Executables are provided for this short course
- ***Obtain your own TOUGH2 license!***
- Copy course material folder from flash drive to a new directory on your hard drive % (TOUGH2_directory)
- Copy the relevant executable to the directory where your input files are, or...
- ...add % (TOUGH2_directory) \Executables to the command search path:
 - START → Settings → Control Panel → System → Advanced → Environment Variables
 - Edit “Path” under System variables
 - Add semi-colon and path name at the end of “Variable value”:
; % (TOUGH2_directory) \Executables

Running TOUGH on PC

- Open a DOS Command window:
 - START → Run... → type: cmd
- Change to working directory
 - type: `cd C:\working_directory_name`
- Either copy TOUGH executable (e.g., `t2_3.exe`) to working directory, or add directory holding the executable to command search path (see previous slide).
- Run from command line, redirecting standard input (<) and standard output (>)
- Example: `t2_3.exe < test.inp > test.out`