Příloha 2 – Zdrojový kód z programu FDS – Zkouška PO stěny Diffuwall

```
&HEAD CHID = 'FDS', TITLE = 'CFD simulace '/

&TIME T_END = 3600.0/ ... délka simulace (sec)

&REAC ID = 'PROPANE',
    FUEL = 'PROPANE'
    C = 3.
    H = 8.1
    SOOT_YIELD = 0.024 /


********** Výpočetní oblast + výpočetní síť **********

&MESH IJK = 24, 16, 20, XB = 0.0,1.2, 0.6,1.4, 0.0,1.0 /       ... vnitřní výpočetní oblast

********** Různé (MICS = miscellaneous) **********

&MISC SURF_DEFAULT = 'STENA', TMPA = 23.0/ ... Standartní povrch a okolní teplota

&DUMP DT_RESTART = 30.0 /


********** Stěny, strop, podlaha a překážky **********

*** Strop a podlaha ***

&VENT XB = 0.0,1.2, 0.6,1.4, 1.0,1.0, SURF_ID = 'PREKLAD', COLOR = 'TAN' / ... Strop
&VENT XB = 0.0,1.2, 0.6,1.4, 0.0,0.0, SURF_ID = 'PODLAHA', COLOR = 'GRAY' / ... Podlaha


*** Zkušební panel ***

&OBST XB = 1.2,1.5, 0.6,0.95, 0.0,1.0, SURF_ID6 = 'PANEL 1', 'INERT', 'INERT', 'INERT', 'INERT',
'INERT', COLOR = 'CARROT' / ... Zkušební panel 1

&OBST XB = 1.2,1.5, 0.95,1.05, 0.0,1.0, SURF_ID6 = 'PANEL 2', 'INERT', 'INERT', 'INERT', 'INERT',
'INERT', COLOR = 'CARROT' / ... Zkušební panel 2

&OBST XB = 1.2,1.5, 1.05,1.4, 0.0,1.0, SURF_ID6 = 'PANEL 1', 'INERT', 'INERT', 'INERT', 'INERT',
'INERT', COLOR = 'CARROT' / ... Zkušební panel 3


*** Otvory ***

&VENT XB = 0.0,0.0, 0.9,1.1, 0.0,0.1, SURF_ID = 'OPEN'/ ... Otvor pro přívod vzduchu a kabelů (200 x
100 mm)
&VENT XB = 0.5,0.8, 0.6,0.6, 0.0,0.1, SURF_ID = 'OPEN'/ ... Otvor pro přívod vzduchu - boční 1 (300 x
100 mm)
&VENT XB = 0.5,0.8, 1.4,1.4, 0.0,0.1, SURF_ID = 'OPEN'/ ... Otvor pro přívod vzduchu - boční 2 (300 x
100 mm)
&VENT XB = 0.5,0.8, 0.6,0.6, 0.8,0.9, SURF_ID = 'OPEN'/ ... Otvor pro odvod kouře - boční 1 (300 x 100
mm)
&VENT XB = 0.5,0.8, 1.4,1.4, 0.8,0.9, SURF_ID = 'OPEN'/ ... Otvor pro odvod kouře - boční 2 (300 x 100
mm)
```

********** Materiály a povrchy (SURF = surface, MATL = material) **********

```
*** Porfix - Cihla ***
&SURF   ID                  = 'STENA'
        MATL_ID             = 'PORFIX'
        THICKNESS           = 0.15 /

&MATL   ID                  = 'PORFIX'
        DENSITY             = 500.
        CONDUCTIVITY        = 0.102
        SPECIFIC_HEAT       = 1.0 /

*** Ytong - Překlad ***
&SURF   ID                  = 'PREKLAD'
        MATL_ID             = 'YTONG-P'
        THICKNESS           = 0.125/

&MATL ID                    = 'YTONG-P'
        DENSITY             = 1000.
        CONDUCTIVITY        = 0.176
        SPECIFIC_HEAT       = 1.05 /

*** Beton ***
&SURF   ID                  ='PODLAHA'
        MATL_ID             ='BETON'
        COLOR               ='GRAY'
        THICKNESS           = 0.3 /

&MATL   ID                  ='BETON'
        DENSITY             = 2400.
        CONDUCTIVITY        = 1.2
        SPECIFIC_HEAT       = 0.88 /

*** Zkušební panel ***
&SURF   ID                  = 'PANEL 1'
        MATL_ID(1,1)        = 'SVD'
        MATL_ID(2,1)        = 'VLNA'
        MATL_ID(3,1)        = 'OSB'
        MATL_ID(4,1)        = 'VLNA'
        MATL_ID(5,1)        = 'DREVOVLAKNO'
        MATL_ID(6,1)        = 'OMITKA'
        THICKNESS(1:6)      = 0.012, 0.04, 0.018, 0.16, 0.06, 0.008 /

&MATL   ID                  = 'SVD'
        DENSITY             = 1200.0
        CONDUCTIVITY        = 0.202
        SPECIFIC_HEAT       = 1.1 /

&MATL   ID                  = 'VLNA'
        DENSITY             = 25.0
        CONDUCTIVITY        = 0.035
        SPECIFIC_HEAT       = 0.840 /
```

```
&MATL  ID                              = 'OSB'
       DENSITY                         = 600.0
       CONDUCTIVITY                    = 0.13
       SPECIFIC_HEAT                   = 1.5
       N_REACTIONS                     = 1
       SPEC_ID(1,1)                    = 'PROPANE'
       NU_SPEC(1,1)                    = 1
       REFERENCE_TEMPERATURE(1)        = 270.0
       HEAT_OF_REACTION(1)             = 350.0
       HEAT_OF_COMBUSTION(1)           = 18000.0 /

&MATL  ID                              = 'DREVOVLAKNO'
       DENSITY                         = 200.0
       CONDUCTIVITY                    = 0.044
       SPECIFIC_HEAT                   = 2.1
       N_REACTIONS                     = 1
       SPEC_ID(1,1)                    = 'PROPANE'
       NU_SPEC(1,1)                    = 1
       REFERENCE_TEMPERATURE(1         = 270.0
       HEAT_OF_REACTION(1)             = 350.0
       HEAT_OF_COMBUSTION(1)           = 18000.0 /

&MATL  ID                    = 'OMITKA'
       DENSITY               = 1800.0
       CONDUCTIVITY          = 0.7
       SPECIFIC_HEAT         = 0.85 /

&SURF  ID                    = 'PANEL 2'
       MATL_ID(1,1)          = 'SVD'
       MATL_ID(2,1)          = 'DREVO'
       MATL_ID(3,1)          = 'OSB'
       MATL_ID(4,1)          = 'DREVO'
       MATL_ID(5,1)          = 'DREVOVLAKNO'
       MATL_ID(6,1)          = 'OMITKA'
       BURN_AWAY             = .TRUE.
       THICKNESS(1:6)        = 0.012, 0.04, 0.018, 0.16, 0.06, 0.008 /

&MATL  ID                              = 'DREVO'
       DENSITY                         = 400.0
       CONDUCTIVITY                    = 0.18
       SPECIFIC_HEAT                   = 2.51
       N_REACTIONS                     = 1
       SPEC_ID(1,1)                    = 'PROPANE'
       NU_SPEC(1,1)                    = 1
       REFERENCE_TEMPERATURE(1)        = 270.0
       HEAT_OF_REACTION(1)             = 350.0
       HEAT_OF_COMBUSTION(1)           = 18000.0 /
```

********** Hořák (OBST = obstruction) **********

&SURF ID = 'HORAK', HRRPUA = 2500, RAMP_Q = 'fireramp' / ... Max. výkon hořáku je 200 kW

&VENT XB = 0.2,1.0, 0.95,1.05, 0.15,0.15, SURF_ID = 'HORAK', COLOR = 'BLACK' / ... Hořící plocha
&OBST XB = 0.2,1.0, 0.95,1.05, 0.0,0.15, SURF_ID = 'INERT', COLOR = 'GRAY 27' / ... Těleso hořáku

&RAMP ID = 'fireramp', T = 0.0, F = 0.0 /
&RAMP ID = 'fireramp', T = 3.0, F = 0.16 /
&RAMP ID = 'fireramp', T = 5.0, F = 0.18 /
&RAMP ID = 'fireramp', T = 10.0, F = 0.2 /
&RAMP ID = 'fireramp', T = 15.0, F = 0.22 /
&RAMP ID = 'fireramp', T = 20.0, F = 0.24 /
&RAMP ID = 'fireramp', T = 25.0, F = 0.26 /
&RAMP ID = 'fireramp', T = 30.0, F = 0.28 /
&RAMP ID = 'fireramp', T = 35.0, F = 0.3 /
&RAMP ID = 'fireramp', T = 40.0, F = 0.32 /
&RAMP ID = 'fireramp', T = 45.0, F = 0.34 /
&RAMP ID = 'fireramp', T = 50.0, F = 0.36 /
&RAMP ID = 'fireramp', T = 55.0, F = 0.38 /
&RAMP ID = 'fireramp', T = 60.0, F = 0.4 /
&RAMP ID = 'fireramp', T = 90.0, F = 0.425 /
&RAMP ID = 'fireramp', T = 120.0, F = 0.45 /
&RAMP ID = 'fireramp', T = 150.0, F = 0.475 /
&RAMP ID = 'fireramp', T = 180.0, F = 0.5 /
&RAMP ID = 'fireramp', T = 210.0, F = 0.525 /
&RAMP ID = 'fireramp', T = 240.0, F = 0.55 /
&RAMP ID = 'fireramp', T = 270.0, F = 0.575 /
&RAMP ID = 'fireramp', T = 300.0, F = 0.6 /
&RAMP ID = 'fireramp', T = 330.0, F = 0.6075 /
&RAMP ID = 'fireramp', T = 360.0, F = 0.615 /
&RAMP ID = 'fireramp', T = 390.0, F = 0.6225 /
&RAMP ID = 'fireramp', T = 420.0, F = 0.63 /
&RAMP ID = 'fireramp', T = 450.0, F = 0.6375 /
&RAMP ID = 'fireramp', T = 480.0, F = 0.645 /
&RAMP ID = 'fireramp', T = 510.0, F = 0.6525 /
&RAMP ID = 'fireramp', T = 540.0, F = 0.66 /
&RAMP ID = 'fireramp', T = 570.0, F = 0.6675 /
&RAMP ID = 'fireramp', T = 600.0, F = 0.675 /
&RAMP ID = 'fireramp', T = 630.0, F = 0.6825 /
&RAMP ID = 'fireramp', T = 660.0, F = 0.69 /
&RAMP ID = 'fireramp', T = 690.0, F = 0.695 /
&RAMP ID = 'fireramp', T = 720.0, F = 0.70 /
&RAMP ID = 'fireramp', T = 750.0, F = 0.705 /
&RAMP ID = 'fireramp', T = 780.0, F = 0.71 /
&RAMP ID = 'fireramp', T = 810.0, F = 0.715 /
&RAMP ID = 'fireramp', T = 840.0, F = 0.72 /
&RAMP ID = 'fireramp', T = 870.0, F = 0.725 /
&RAMP ID = 'fireramp', T = 900.0, F = 0.73 /
&RAMP ID = 'fireramp', T = 930.0, F = 0.735 /
&RAMP ID = 'fireramp', T = 960.0, F = 0.74 /
&RAMP ID = 'fireramp', T = 990.0, F = 0.745 /
&RAMP ID = 'fireramp', T = 1020.0, F = 0.75 /
&RAMP ID = 'fireramp', T = 1050.0, F = 0.7533 /
&RAMP ID = 'fireramp', T = 1080.0, F = 0.7566 /

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&RAMP ID = 'fireramp', T = 1110.0,   F = 0.76 /
&RAMP ID = 'fireramp', T = 1140.0,   F = 0.7633 /
&RAMP ID = 'fireramp', T = 1170.0,   F = 0.7666 /
&RAMP ID = 'fireramp', T = 1200.0,   F = 0.77 /
&RAMP ID = 'fireramp', T = 1230.0,   F = 0.7733 /
&RAMP ID = 'fireramp', T = 1260.0,   F = 0.7766 /
&RAMP ID = 'fireramp', T = 1290.0,   F = 0.78 /
&RAMP ID = 'fireramp', T = 1320.0,   F = 0.7833 /
&RAMP ID = 'fireramp', T = 1350.0,   F = 0.7866 /
&RAMP ID = 'fireramp', T = 1380.0,   F = 0.79 /
&RAMP ID = 'fireramp', T = 1410.0,   F = 0.7933 /
&RAMP ID = 'fireramp', T = 1440.0,   F = 0.7966 /
&RAMP ID = 'fireramp', T = 1470.0,   F = 0.8 /
&RAMP ID = 'fireramp', T = 1500.0,   F = 0.8033 /
&RAMP ID = 'fireramp', T = 1530.0,   F = 0.8066 /
&RAMP ID = 'fireramp', T = 1560.0,   F = 0.81 /
&RAMP ID = 'fireramp', T = 1590.0,   F = 0.8133 /
&RAMP ID = 'fireramp', T = 1620.0,   F = 0.8166 /
&RAMP ID = 'fireramp', T = 1650.0,   F = 0.82 /
&RAMP ID = 'fireramp', T = 1680.0,   F = 0.8233 /
&RAMP ID = 'fireramp', T = 1710.0,   F = 0.8266 /
&RAMP ID = 'fireramp', T = 1740.0,   F = 0.83 /
&RAMP ID = 'fireramp', T = 1770.0,   F = 0.8333 /
&RAMP ID = 'fireramp', T = 1800.0,   F = 0.8366 /
&RAMP ID = 'fireramp', T = 1830.0,   F = 0.84 /
&RAMP ID = 'fireramp', T = 1860.0,   F = 0.8425 /
&RAMP ID = 'fireramp', T = 1890.0,   F = 0.845 /
&RAMP ID = 'fireramp', T = 1920.0,   F = 0.8475 /
&RAMP ID = 'fireramp', T = 1950.0,   F = 0.85 /
&RAMP ID = 'fireramp', T = 1980.0,   F = 0.8525 /
&RAMP ID = 'fireramp', T = 2010.0,   F = 0.855 /
&RAMP ID = 'fireramp', T = 2040.0,   F = 0.8575 /
&RAMP ID = 'fireramp', T = 2070.0,   F = 0.86 /
&RAMP ID = 'fireramp', T = 2100.0,   F = 0.8625 /
&RAMP ID = 'fireramp', T = 2130.0,   F = 0.865 /
&RAMP ID = 'fireramp', T = 2160.0,   F = 0.8675 /
&RAMP ID = 'fireramp', T = 2190.0,   F = 0.87 /
&RAMP ID = 'fireramp', T = 2220.0,   F = 0.8725 /
&RAMP ID = 'fireramp', T = 2250.0,   F = 0.875 /
&RAMP ID = 'fireramp', T = 2280.0,   F = 0.8775 /
&RAMP ID = 'fireramp', T = 2310.0,   F = 0.88 /
&RAMP ID = 'fireramp', T = 2340.0,   F = 0.8825 /
&RAMP ID = 'fireramp', T = 2370.0,   F = 0.885 /
&RAMP ID = 'fireramp', T = 2400.0,   F = 0.8875 /
&RAMP ID = 'fireramp', T = 2430.0,   F = 0.89 /
&RAMP ID = 'fireramp', T = 2460.0,   F = 0.892 /
&RAMP ID = 'fireramp', T = 2490.0,   F = 0.894 /
&RAMP ID = 'fireramp', T = 2520.0,   F = 0.896 /
&RAMP ID = 'fireramp', T = 2550.0,   F = 0.898 /
&RAMP ID = 'fireramp', T = 2580.0,   F = 0.90 /
&RAMP ID = 'fireramp', T = 2610.0,   F = 0.902 /
&RAMP ID = 'fireramp', T = 2640.0,   F = 0.904 /
&RAMP ID = 'fireramp', T = 2670.0,   F = 0.906 /
&RAMP ID = 'fireramp', T = 2700.0,   F = 0.908 /
&RAMP ID = 'fireramp', T = 2730.0,   F = 0.91 /
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&RAMP ID = 'fireramp', T = 2760.0,  F = 0.912 /
&RAMP ID = 'fireramp', T = 2790.0,  F = 0.914 /
&RAMP ID = 'fireramp', T = 2820.0,  F = 0.916 /
&RAMP ID = 'fireramp', T = 2850.0,  F = 0.918 /
&RAMP ID = 'fireramp', T = 2880.0,  F = 0.92 /
&RAMP ID = 'fireramp', T = 2910.0,  F = 0.922 /
&RAMP ID = 'fireramp', T = 2940.0,  F = 0.924 /
&RAMP ID = 'fireramp', T = 2970.0,  F = 0.926 /
&RAMP ID = 'fireramp', T = 3000.0,  F = 0.928 /
&RAMP ID = 'fireramp', T = 3030.0,  F = 0.93 /
&RAMP ID = 'fireramp', T = 3060.0,  F = 0.932 /
&RAMP ID = 'fireramp', T = 3090.0,  F = 0.934 /
&RAMP ID = 'fireramp', T = 3120.0,  F = 0.936 /
&RAMP ID = 'fireramp', T = 3150.0,  F = 0.938 /
&RAMP ID = 'fireramp', T = 3180.0,  F = 0.94 /
&RAMP ID = 'fireramp', T = 3210.0,  F = 0.942 /
&RAMP ID = 'fireramp', T = 3240.0,  F = 0.944 /
&RAMP ID = 'fireramp', T = 3270.0,  F = 0.946 /
&RAMP ID = 'fireramp', T = 3300.0,  F = 0.948 /
&RAMP ID = 'fireramp', T = 3330.0,  F = 0.95 /
&RAMP ID = 'fireramp', T = 3360.0,  F = 0.952 /
&RAMP ID = 'fireramp', T = 3390.0,  F = 0.954 /
&RAMP ID = 'fireramp', T = 3420.0,  F = 0.956 /
&RAMP ID = 'fireramp', T = 3450.0,  F = 0.958 /
&RAMP ID = 'fireramp', T = 3480.0,  F = 0.96 /
&RAMP ID = 'fireramp', T = 3510.0,  F = 0.962 /
&RAMP ID = 'fireramp', T = 3540.0,  F = 0.964 /
&RAMP ID = 'fireramp', T = 3570.0,  F = 0.966 /
&RAMP ID = 'fireramp', T = 3600.0,  F = 0.968 /


********** Výstupní hodnoty, tj. co a kde chci měřit **********

*** Termočlánky - bodové měření teplot (°C) ***
&DEVC XYZ = 0.3, 0.85, 0.7, QUANTITY = 'THERMOCOUPLE', ID = 'TC_1' / ... Nad hořákem
&DEVC XYZ = 0.3, 1.15, 0.7, QUANTITY = 'THERMOCOUPLE', ID = 'TC_2' / ... Nad hořákem
&DEVC XYZ = 0.9, 0.85, 0.7, QUANTITY = 'THERMOCOUPLE', ID = 'TC_3' / ... Nad hořákem
&DEVC XYZ = 0.9, 1.15, 0.7, QUANTITY = 'THERMOCOUPLE', ID = 'TC_4' / ... Nad hořákem

&DEVC XYZ = 1.2, 1.0, 0.5, QUANTITY = 'INSIDE WALL TEMPERATURE', IOR = -1, DEPTH =
0.052, ID = 'TC_9' / ... Ve středu předstěny
&DEVC XYZ = 1.2, 1.2, 0.5, QUANTITY = 'INSIDE WALL TEMPERATURE', IOR = -1, DEPTH =
0.052, ID = 'TC_10' / ... V poli předstěny
&DEVC XYZ = 1.2, 1.0, 0.5, QUANTITY = 'INSIDE WALL TEMPERATURE', IOR = -1, DEPTH = 0.07,
ID = 'TC_11' / ... Ve středu OSB desky
&DEVC XYZ = 1.2, 1.2, 0.5, QUANTITY = 'INSIDE WALL TEMPERATURE', IOR = -1, DEPTH = 0.07,
ID = 'TC_12' / ... V poli OSB desky
&DEVC XYZ = 1.2, 1.0, 0.5, QUANTITY = 'INSIDE WALL TEMPERATURE', IOR = -1, DEPTH = 0.23,
ID = 'TC_13' / ... Ve středu dřevovláknité desky
&DEVC XYZ = 1.2, 1.2, 0.5, QUANTITY = 'INSIDE WALL TEMPERATURE', IOR = -1, DEPTH = 0.23,
ID = 'TC_14' / ... V poli dřevovláknité desky
```

```
*** Barevné iso-plochy (SLICEFile) ... teplotní a rychlostní pole ***
&SLCF PBX = 0.6, QUANTITY = 'TEMPERATURE', VECTOR = .TRUE./
&SLCF PBY = 1.0, QUANTITY = 'TEMPERATURE', VECTOR = .TRUE./
&SLCF PBZ = 0.7, QUANTITY = 'TEMPERATURE', VECTOR = .TRUE./
&SLCF PBX = 0.6, QUANTITY = 'VELOCITY', VECTOR = .TRUE. /
&SLCF PBY = 1.0, QUANTITY = 'VELOCITY', VECTOR = .TRUE. /
&SLCF PBZ = 0.7, QUANTITY = 'VELOCITY', VECTOR = .TRUE. /

***  Hodnoty na hranici výpočetní oblasti ***
&BNDF QUANTITY = 'GAUGE HEAT FLUX' / ... BNDF = boundery file ... dopadající tepelný tok
&BNDF QUANTITY = 'WALL TEMPERATURE' / ... teplota povrchů

**********

&TAIL / ... konec simulace
```