

Příloha 1 – Zdrojový kód z programu FDS – Referenční zkušební pec

```
&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
```

```
*** 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) *****
```

```
*** Ytong - 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 /

***** 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 /

***** 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

*** 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 = boundary file ... dopadající tepelný tok
&BNDF QUANTITY = 'WALL TEMPERATURE' / ... teplota povrchů

&TAIL / ... konec simulace