LAMPIRAN

LAMPIRAN A

Input File

LAMPIRAN B

Data Kayu dari Lab. Biomaterial LIPI, Cibinong

LAMPIRAN C

Grafik Hasil Simulasi

LAMPIRAN A

Input File

```
&HEAD CHID='vertikal' TITLE='sudut 90 heater 600C jarak 3cm' /
&MESH IJK=30,20,15, XB = -0.05, 0.25, 0.05, 0.25, 0.1, 0.25/

&TIME T_END=800.0 /

&DUMP NFRAMES  = 1600
      DT_PL3D  = 10000000.
      MASS_FILE=.TRUE.  /

&REAC ID='WOOD'
      FYI='Ritchie, et al., 5th IAFSS, C_3.4 H_6.2 O_2.5'
      O           = 2.5
      C           = 3.4
      H           = 6.2
      SOOT_YIELD  = 0.01
      EPUMO2      = 13100.
      Y_O2_INFTY  = 0.208/

&MISC SURF_DEFAULT='BAJA'
      GVEC=9.81,0.0,0.0
      CO_PRODUCTION = .TRUE.
      TMPA = 27/

&SURF ID='JATI'
      STRETCH_FACTOR=1.
      CELL_SIZE_FACTOR = 0.5
      MATL_ID(1,1:2) = 'FUEL','WATER'
      MATL_MASS_FRACTION(1,1:2) = 0.91,0.0
      THICKNESS(1)  =  0.01
      HEAT_OF_VAPORIZATION = 500. /

&MATL ID                    = 'FUEL'
      EMISSIVITY            = 0.71
      CONDUCTIVITY          = 0.15
      SPECIFIC_HEAT         = 1.25
      DENSITY               = 700
      A                     = 2.8E19
      E                     = 2.424E5
      N_REACTIONS           = 1
      HEAT_OF_REACTION      = 418
      HEAT_OF_COMBUSTION    = 16090
      NU_RESIDUE            = 0.2
      NU_FUEL               = 0.8
      RESIDUE               = 'CHAR' /

&MATL ID              = 'WATER'
      DENSITY         = 1000.
      CONDUCTIVITY    = 0.6
      SPECIFIC_HEAT   = 4.19
```

```
      N_REACTIONS      = 1
      A                = 1E20
      E                = 1.62E+05
      NU_WATER         = 1.0
      HEAT_OF_REACTION = 2260. /

&MATL ID               = 'CHAR'
      EMISSIVITY       = 1
      DENSITY          = 140
      CONDUCTIVITY     = 0.08
      SPECIFIC_HEAT    = 1.1 /

&SURF ID                = 'BAJA'
      MATL_ID           = 'MILD_STEEL_Q1'
      COLOR             = 'GRAY'
      THICKNESS         = 0.1 /

&MATL ID                =    'MILD_STEEL_Q1'
      EMISSIVITY        =    0.82
      FYI               =    'Quintiere - Principles of fire
behaviour'
      CONDUCTIVITY      =    45.8
      SPECIFIC_HEAT     =    0.46
      DENSITY           =    7850  /

&SURF ID ='HOT', TMP_FRONT = 600, COLOR='GREEN'/

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&BNDF QUANTITY='WALL_TEMPERATURE'/

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&TAIL /
```

LAMPIRAN B

Data Kayu dari Lab. Biomaterial LIPI, Cibinong

LEMBAGA ILMU PENGETAHUAN INDONESIA
(INDONESIAN INSTUTUTE OF SCIENCE)
UNIT PELAKSANA TEKNIS
BALAI PENELITIAN DAN PENGEMBANGAN BIOMATERIAL
(RESEARCH AND DEVELOPMENT UNIT FOR BIOMATERIALS)
Jl. Raya Bogor Km. 46, Cibinong, Bogor 16911, Indonesia
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REPORT OF TESTING

Serial No. : 0234 /IPH.4/KS/2008

Date of Received	: April 15, 2008
Date of Test	: April 22 – May 3, 2008
Product & Type	: Solid wood (jati Belanda)
Quantity / Size / Thickness	: 1 piece (100 cm x 10 cm x 2 cm)
Tested for	: Lignin, α-cellulose and hemicellulose
Standard Test Method	: Mokushitsu Kagaku Jiken Manual (Japan Wood Research Society, 2000)
Company	: University of Indonesia
Address	: Kampus Baru Universitas Indonesia, Depok 16424
Contract No.	: -
Supplier Sample	: University of Indonesia
Description	: For Research Purpose
TEST RESULT	: Appendix 1

Cibinong, May 6, 2008

Prof. Dr. Ir. Bambang Subiyanto, M.Agr.
Director

Appendix 1

Sample: Wood bark

Results of testing:

Replication	Lignin Content (%)	α–selulosa Content(%)	Hemicellulose Content (%)
1	33,58	41,52	26,60
2	33,74	42,44	26,21
Mean	33,66	41.98	26,41

Note: Lignin, α–selulosa and hemicellulose contents are based on dry basis.

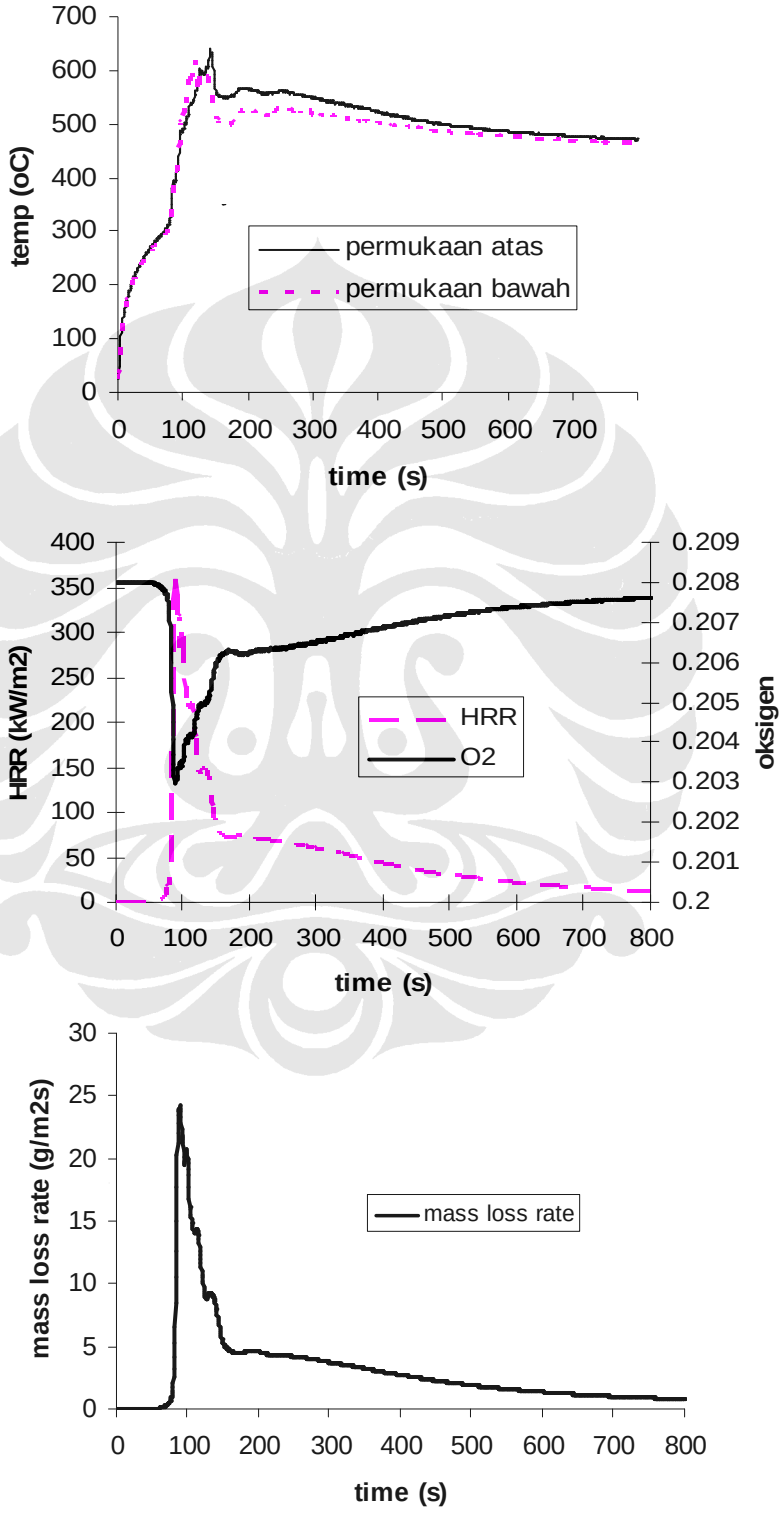
Cibinong, May 6, 2008

Dr. Ir. Bambang Subiyanto. M.Agr.
Director

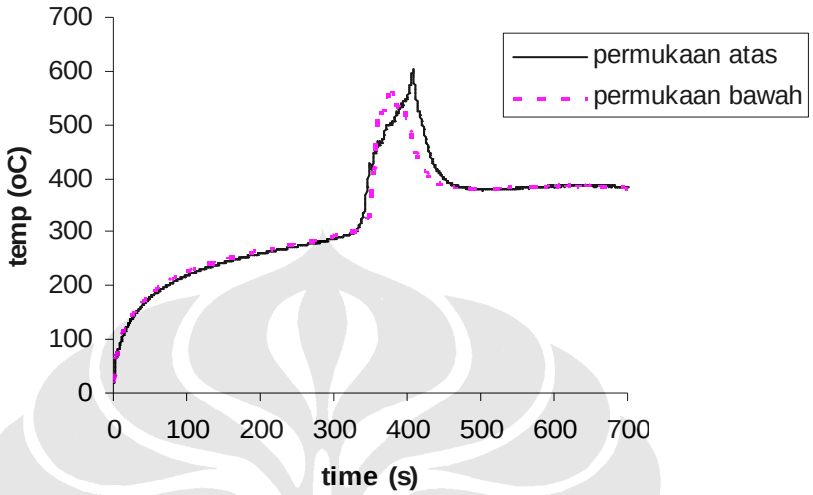
LAMPIRAN C

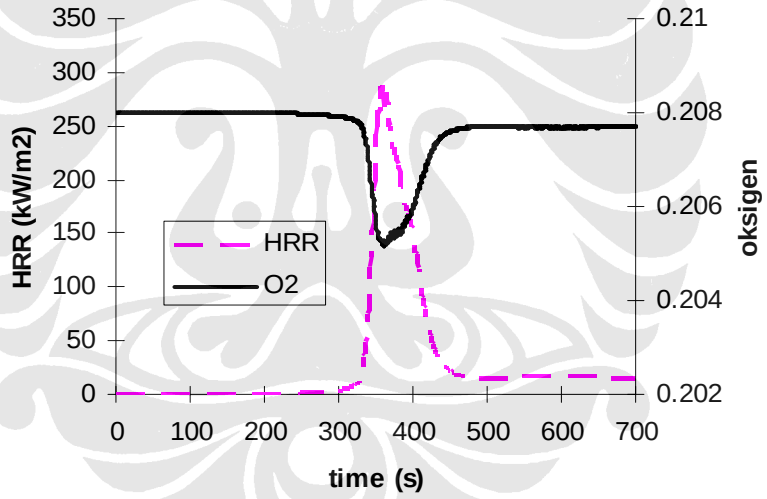
DATA HASIL SIMULASI

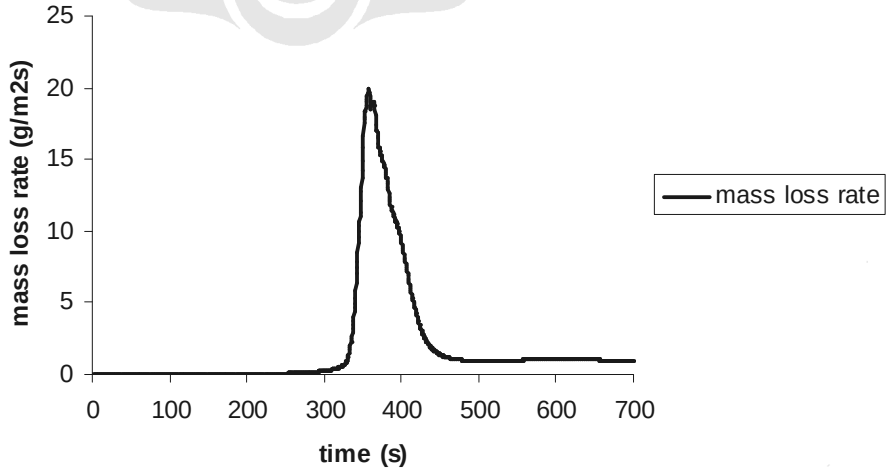
Orientasi permukaan = 90^{o}
Jarak = 3cm
Heater = 600^{o}C



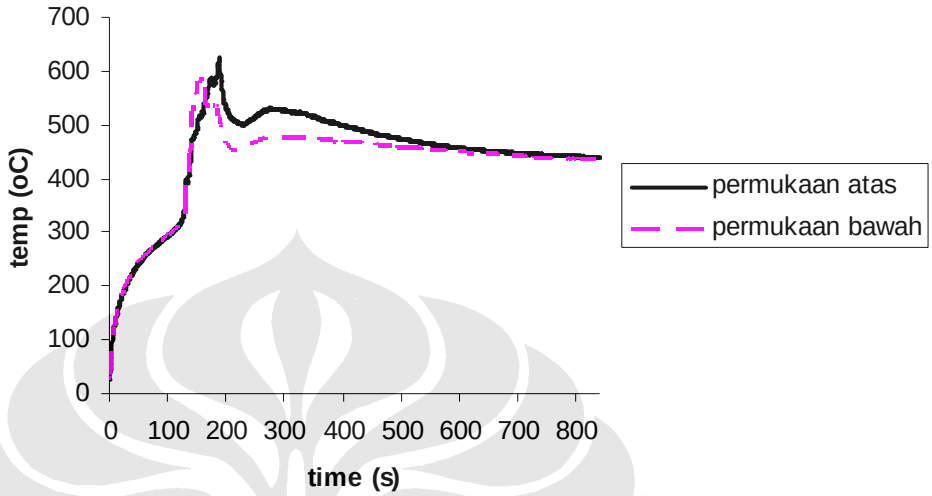
Orientasi permukaan = 90^{o}
Jarak = 3cm
Heater = 500^{o}C

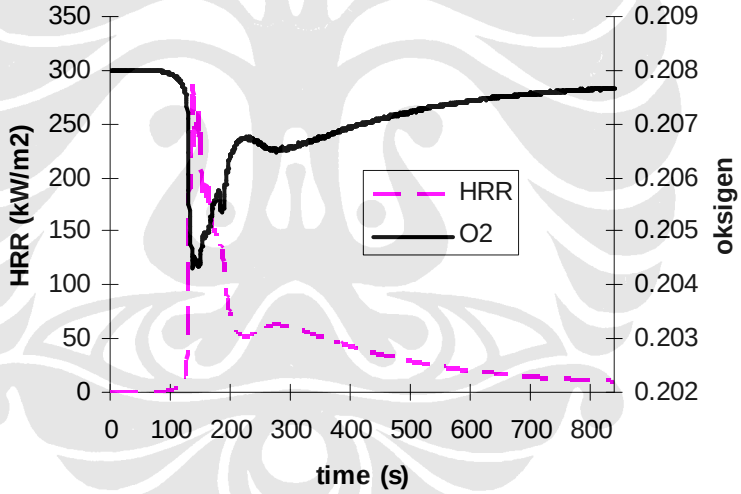


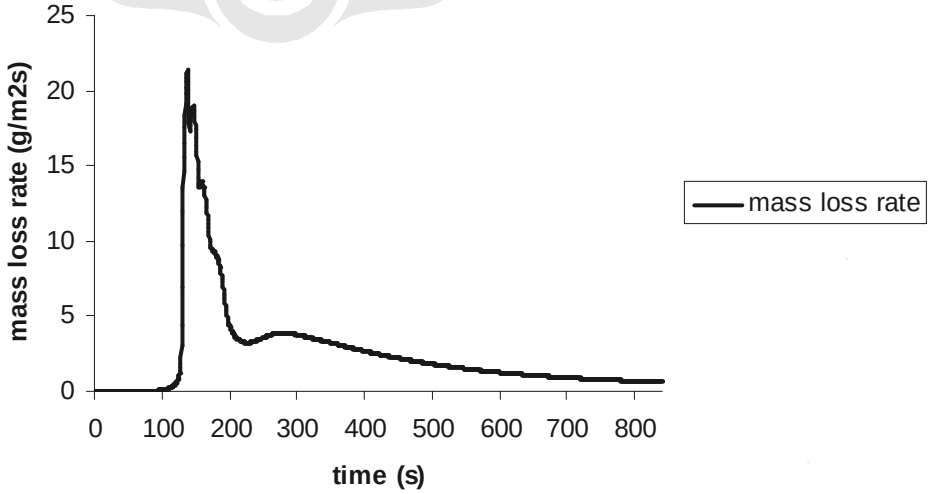




Orientasi permukaan = 90^{o}
Jarak = 5cm
Heater = 600^{o}C







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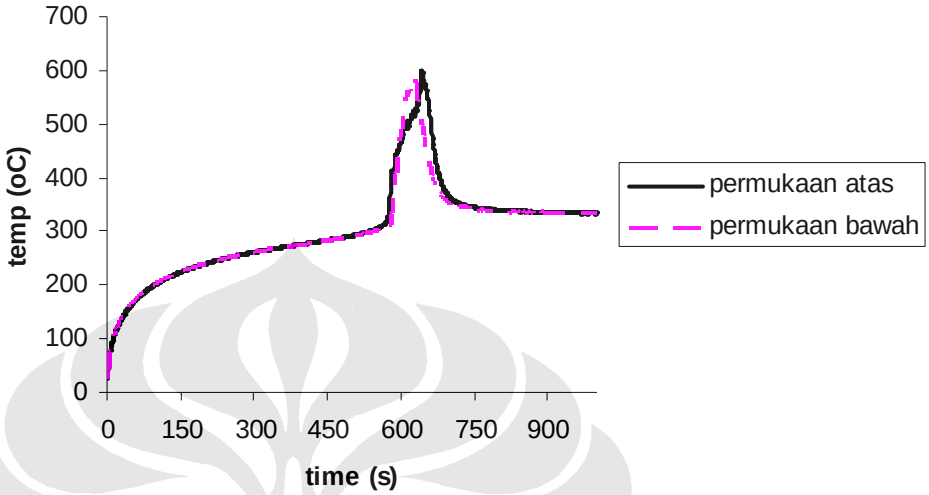
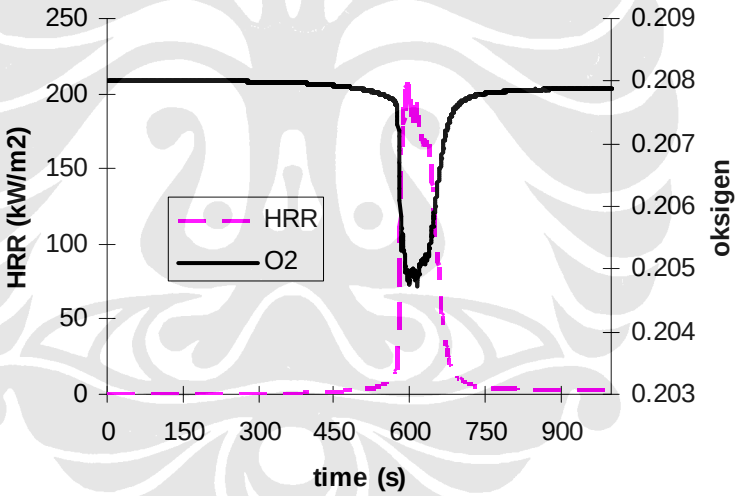
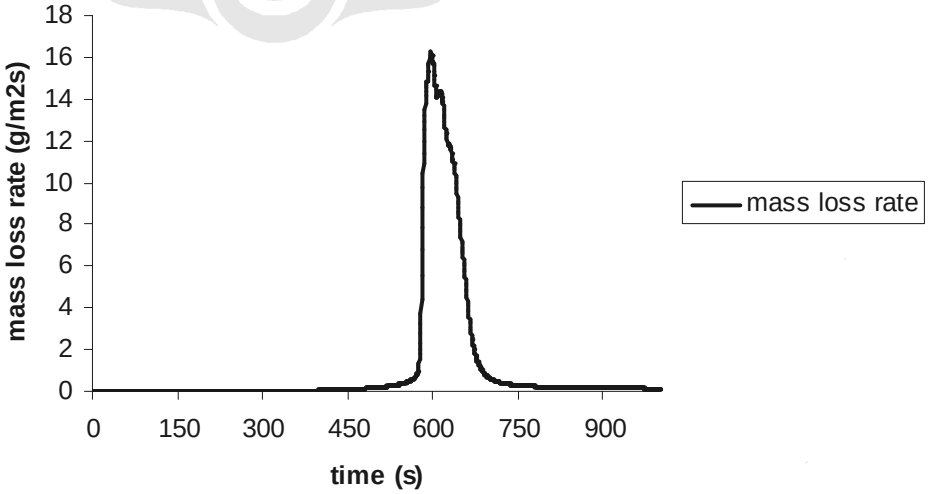
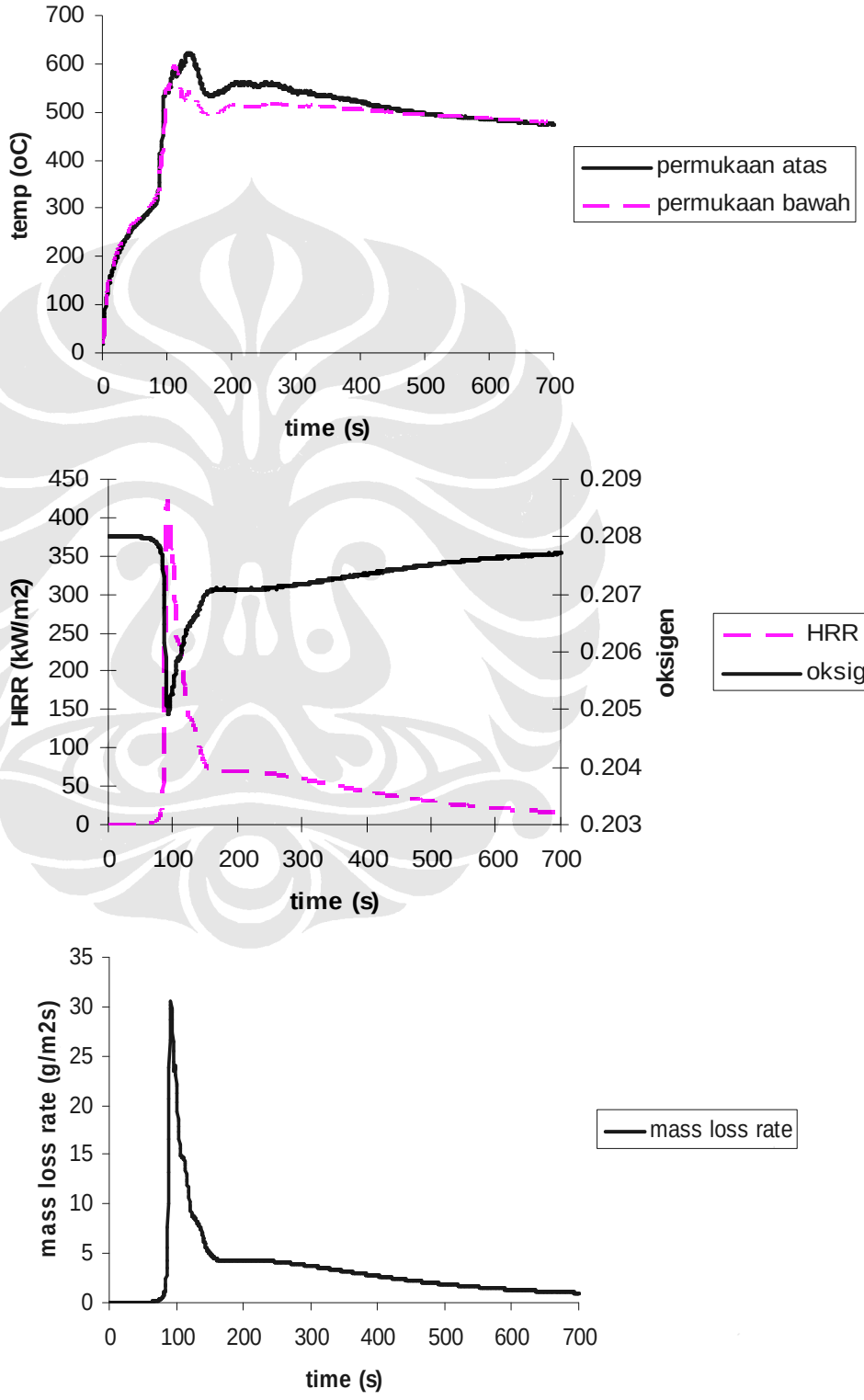
Jarak = 5cm
Heater = 500^{o}C







Orientasi permukaan = 45^{o}
Jarak = 3cm
Heater = 600^{o}C



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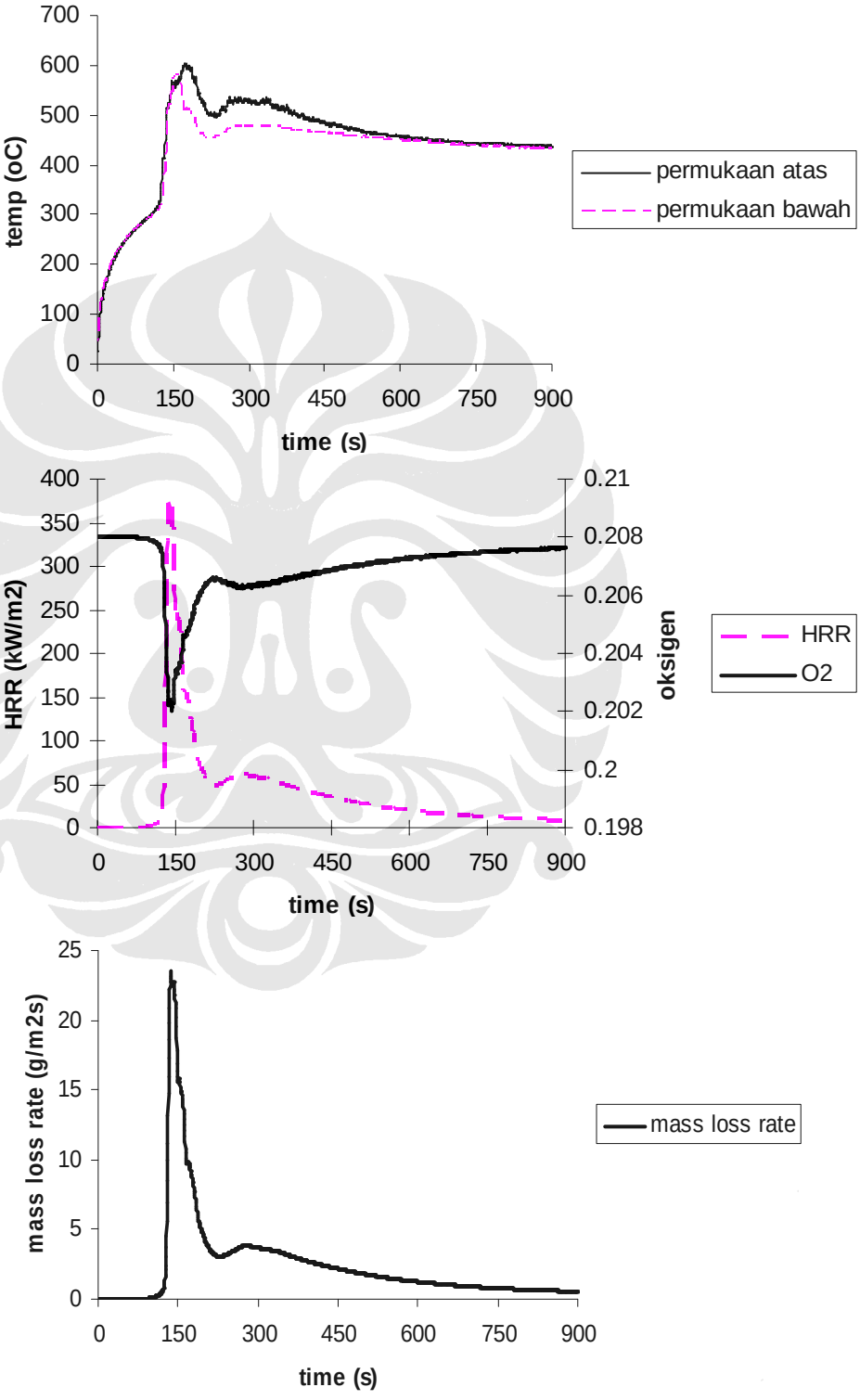

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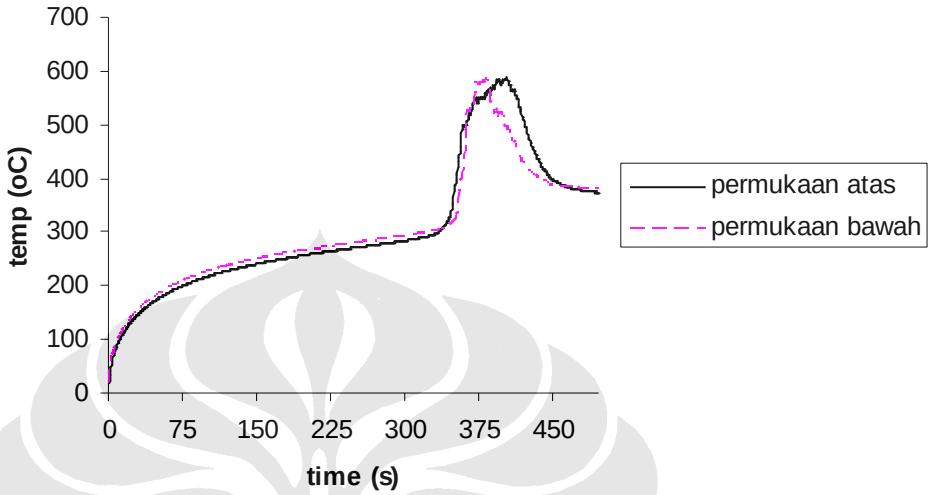

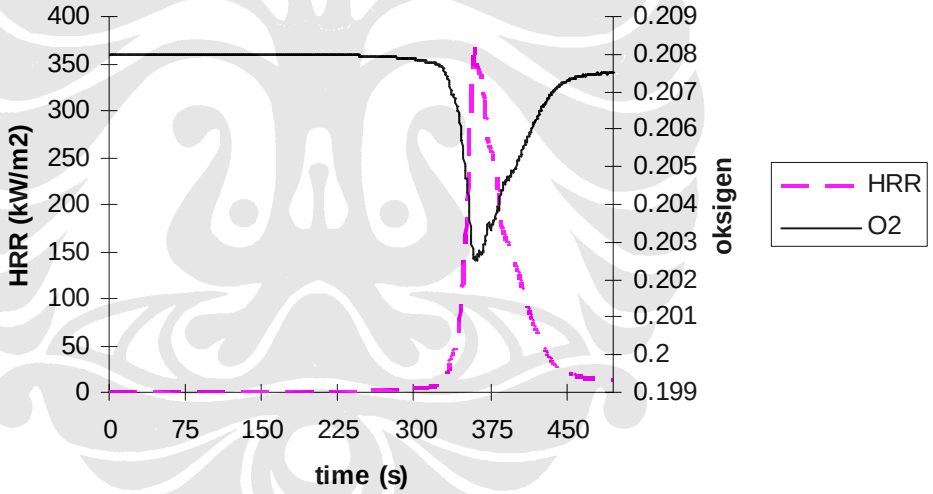

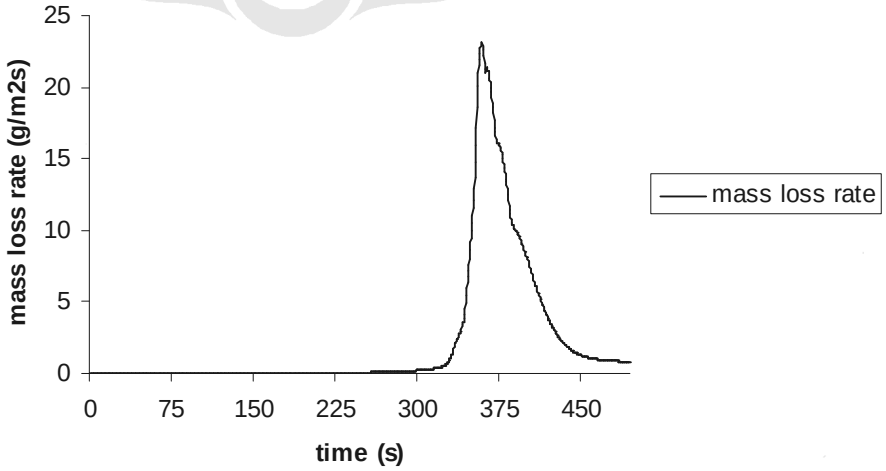

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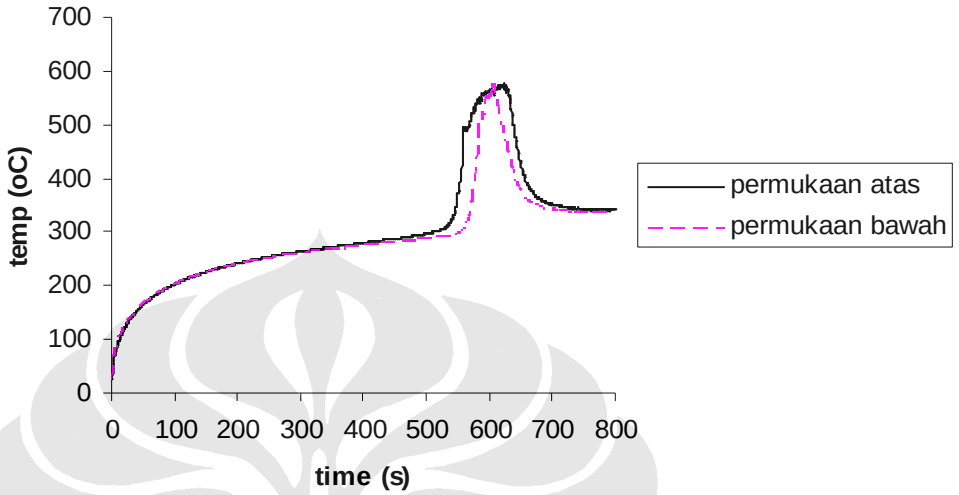

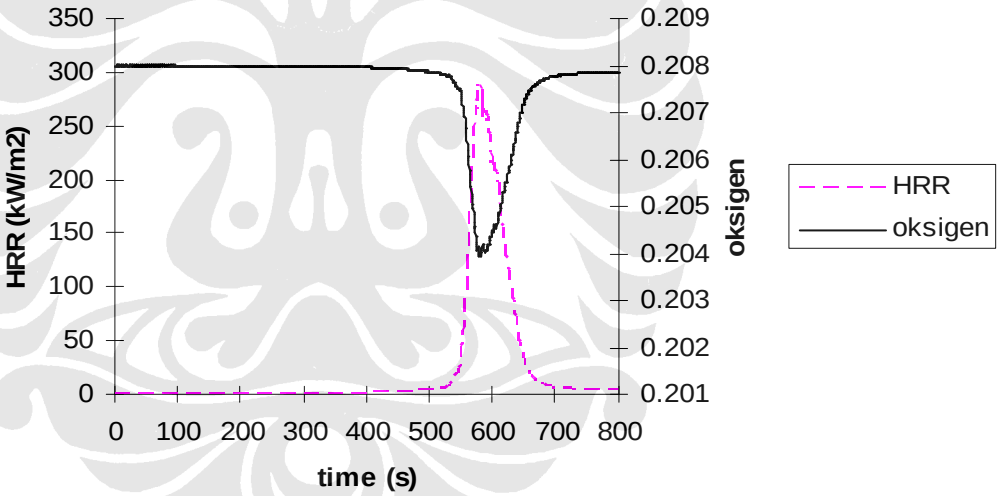

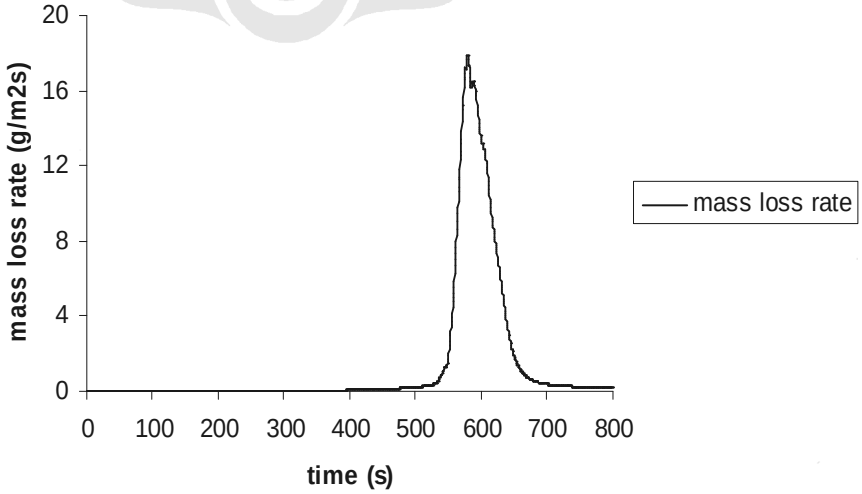

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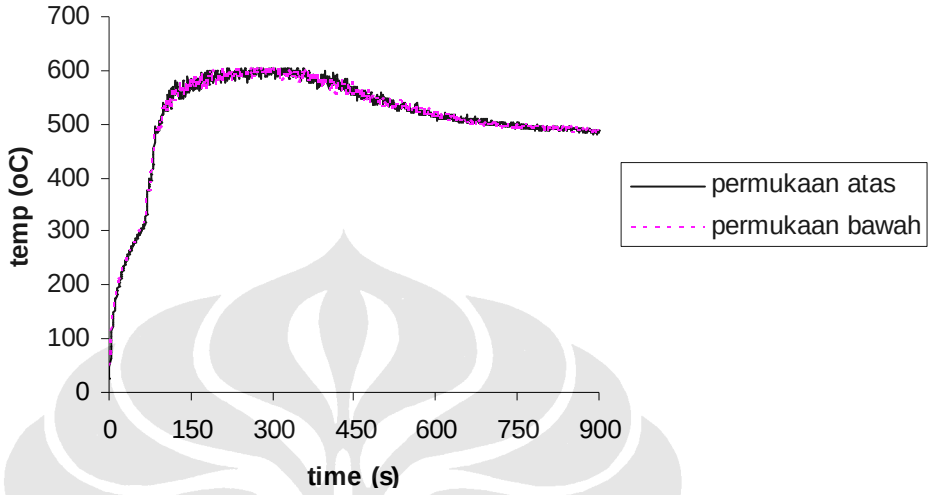

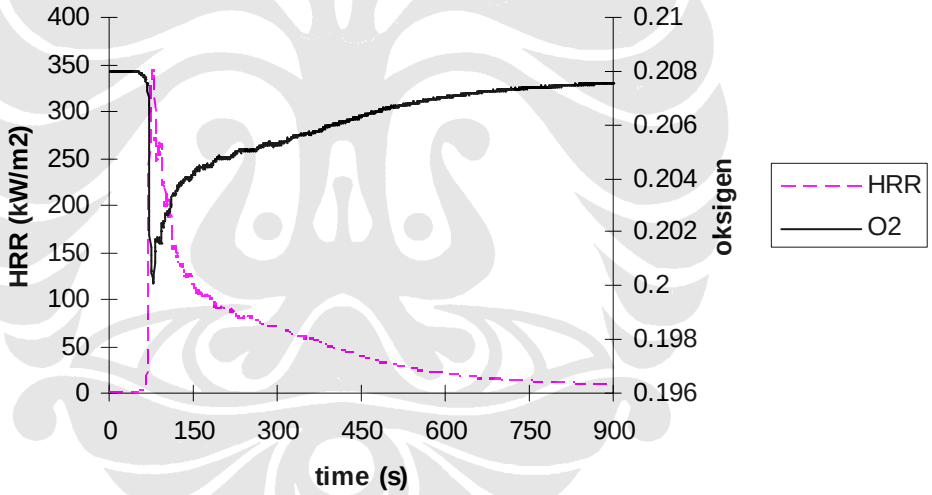

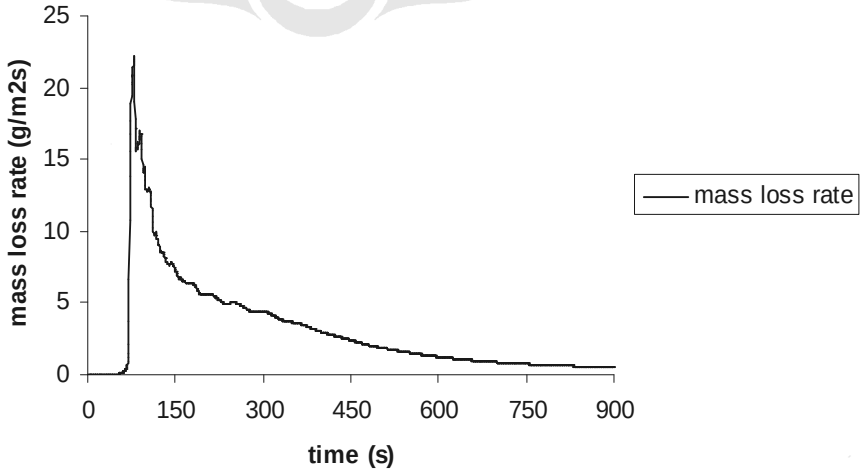

Orientasi permukaan = 180^{o}
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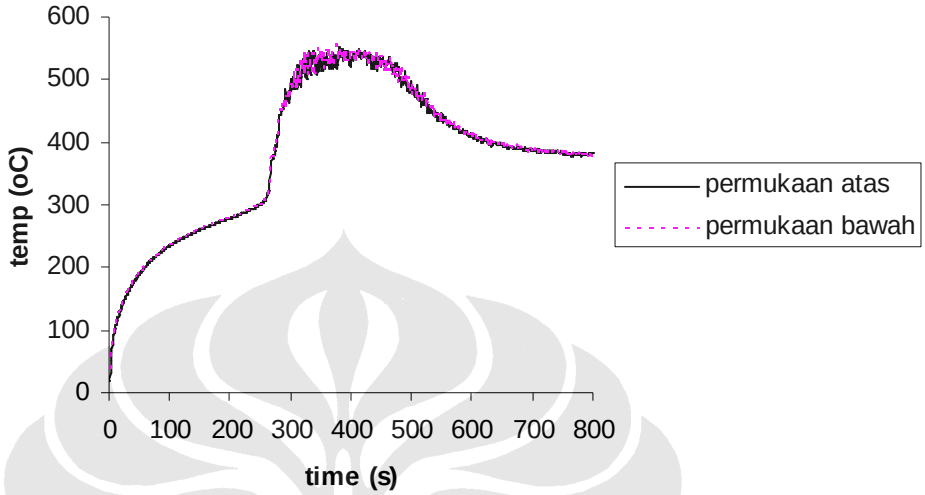
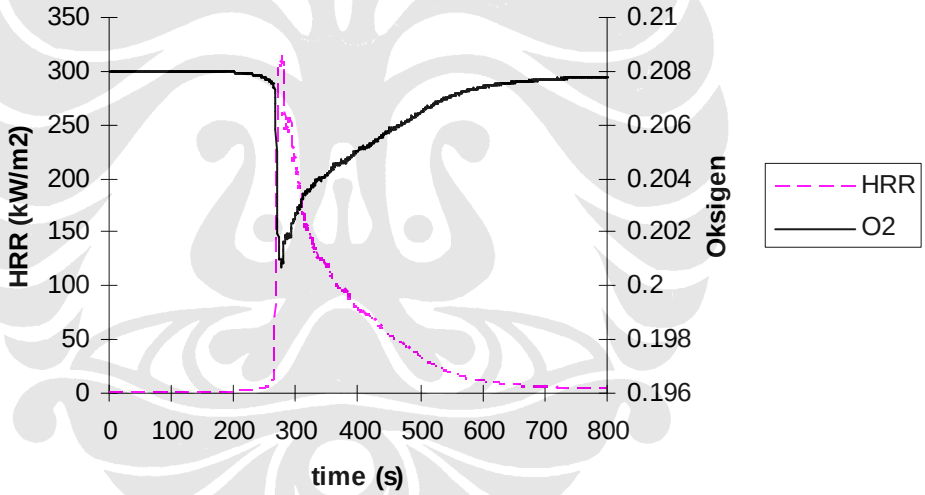
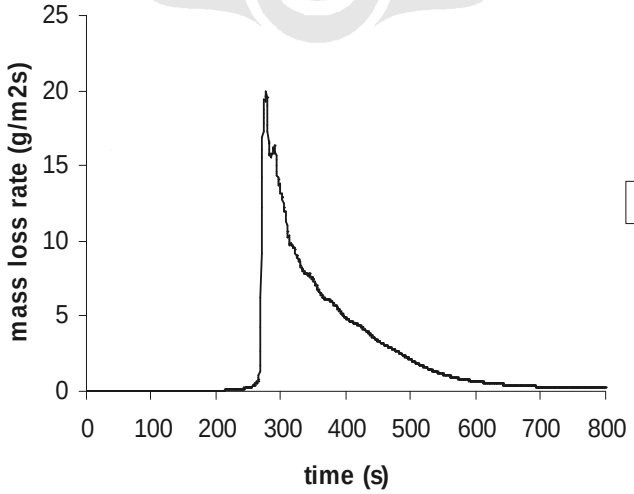
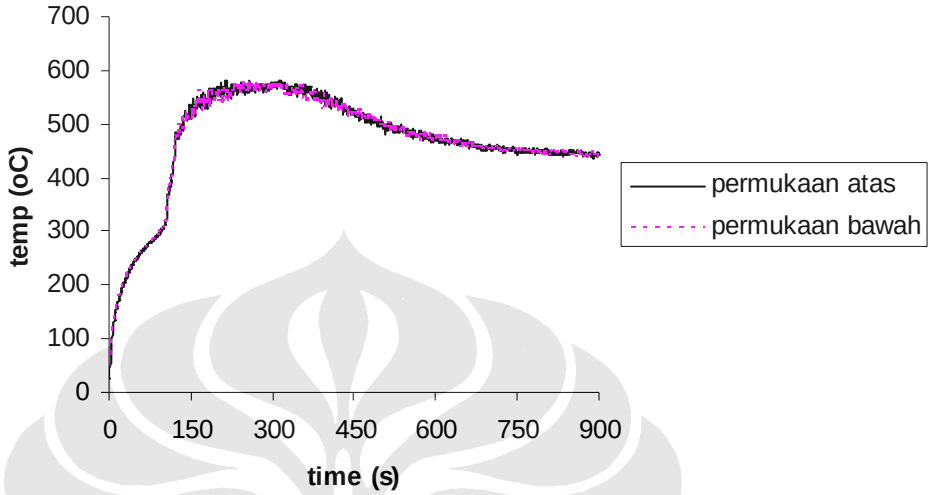
Heater = 500^{o}C

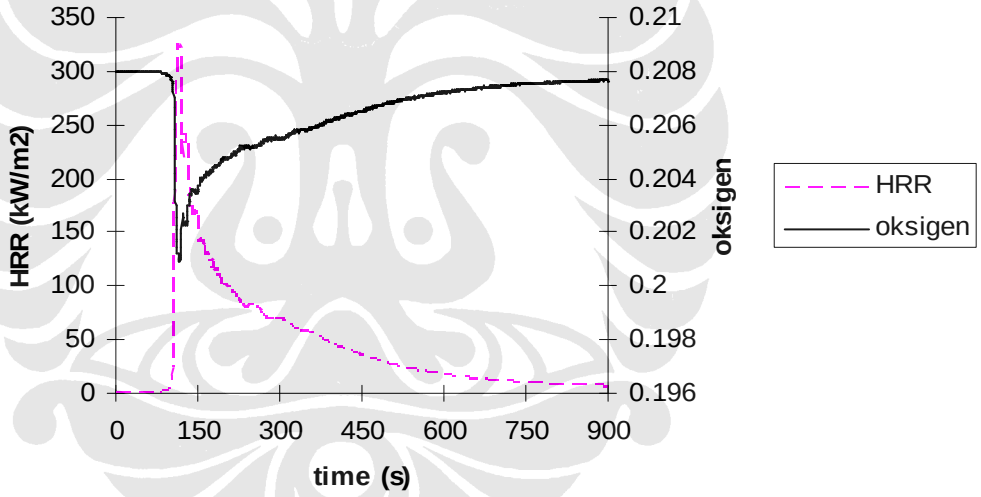


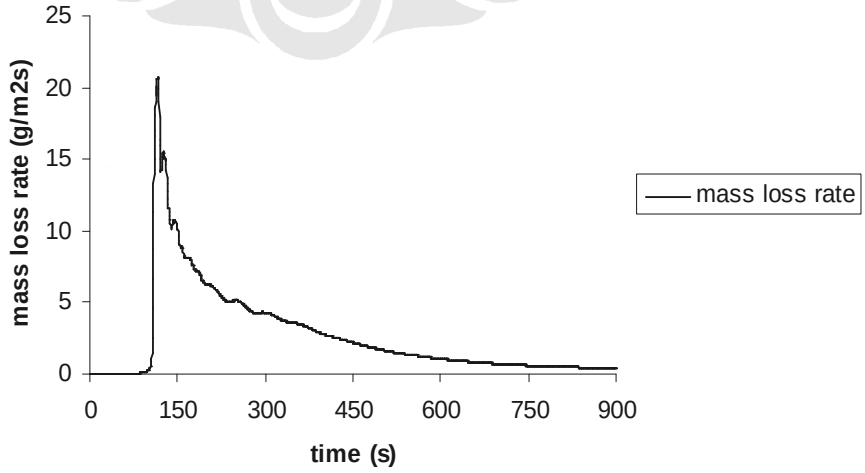




Orientasi permukaan = 180^{o}
Jarak = 5cm
Heater = 600^{o}C







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