EXAMPLE 1-1 Cooling of Stainless Steel Sheets

Modelica code

```
model Example_1_2 "Cooling of Stainless Steel Sheets"
  import Modelica.SIunits;

  parameter SIunits.Velocity             v(min=0) =     0.01  "Velocity (m/s)";
  parameter SIunits.Length               t(min=0) =     0.005 "Thickness (m)";
  parameter SIunits.Length               w(min=0) =     2     "Lenght (m)";
  parameter SIunits.Temperature          T_in =         500   "Inlet temperature (K)";
  parameter SIunits.Temperature          T_out =        300   "Outlet temperature (K)";
  parameter SIunits.SpecificHeatCapacity cp(min=0) =    515   "Heat capacity (J/(kg K))";
  parameter SIunits.Density              rho =          7900  "Density (kg/m^3)";

  output SIunits.MassFlowRate m_dot  "Mass flow rate";
  output SIunits.HeatFlowRate Q_loss "Heat flow rate";

equation
  m_dot  = rho*v*w*t;
  Q_loss = m_dot * cp * (T_in - T_out);

end Example_1_2;
```