```
function MatState = Initialize_Material_State(sig, Et, fy, epmin, epmax, epex, ep0, epr, sr, kon, initial_strains)
  % Inputs
     % sig,; Modulus of Elasticity
     % Et; Yeild Stress
     % fy;Menegotto-Pinto Model parameters
     % epmin; minimum yield strain
     % epmax; maxmimum yield strain
     % ep0; Initial strain
     % epr; Max reversal starin
      % sr; Max reversal stress
      % kon; Initial branch
      % initial_strains; initial strains of the system stored as MatState.eps
  % Returns the structural parameter of equivalent Truss
     % MatState; Structure with all of the above information
  MatState.Pres.sig   = sig;
  MatState.Pres.Et    = Et;
  MatState.Pres.s0    = fy;
  MatState.Pres.epmin = epmin;
  MatState.Pres.epmax = epmax;
  MatState.Pres.epex  = epex;
  MatState.Pres.ep0   = ep0;

  MatState.Pres.epr   = epr;
  MatState.Pres.sr    = sr;
  MatState.Pres.kon   = kon;

  MatState.sig  = 0;
  MatState.Et   = Et;
  MatState.Past = MatState.Pres;
  for i = 1:length(initial_strains)
     MatState.eps(1,i) = initial_strains(i);
  end

end

```