

Simultaneous generation of geometry and microstructure

Hyper-functional forming, which locates at interdisciplinary field between production technology and materials technology, is aimed at generating geometry and mechanical properties of formed product. We are carrying out investigations into the basic field of hyper-functional forming as theoretical analysis of metal forming, development of new forming systems and micro-structure control of metallic materials by forming.

Forming CAE system for the control of geometry and microstructure

Width-restricted heavy-reduction controlled rolling process

Semi-solid forming and microstructure control

Warm forming of metallic sheets for ultra lightweight construction

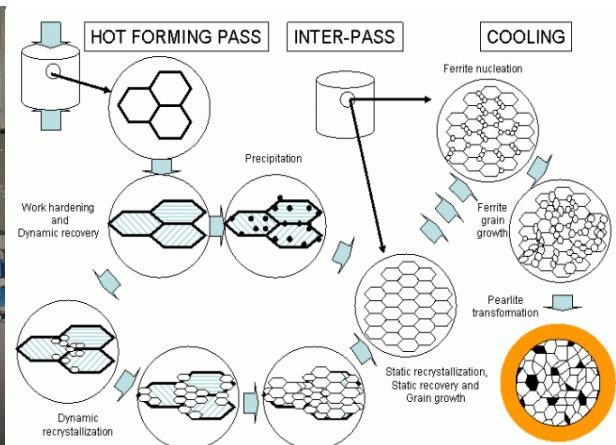
Forming of carbon fiber reinforced plastics sheet



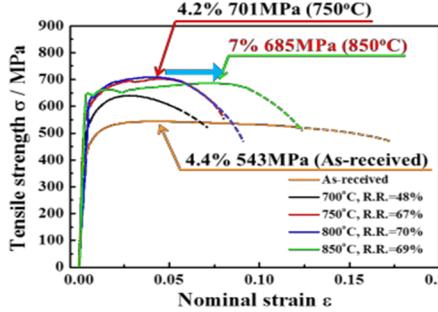
Ultrahigh-speed Compression Testing Machine



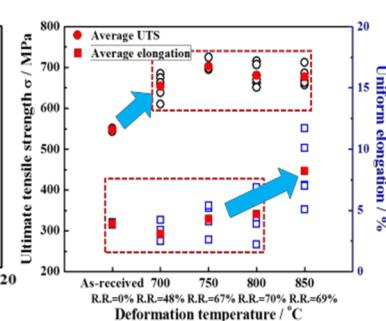
Hybrid AC Servo Press



Digital Rolling Platform (DRP)



Bimodal Structure and its Characteristics



Width-restricted Heavy-reduction Controlled Rolling Mill