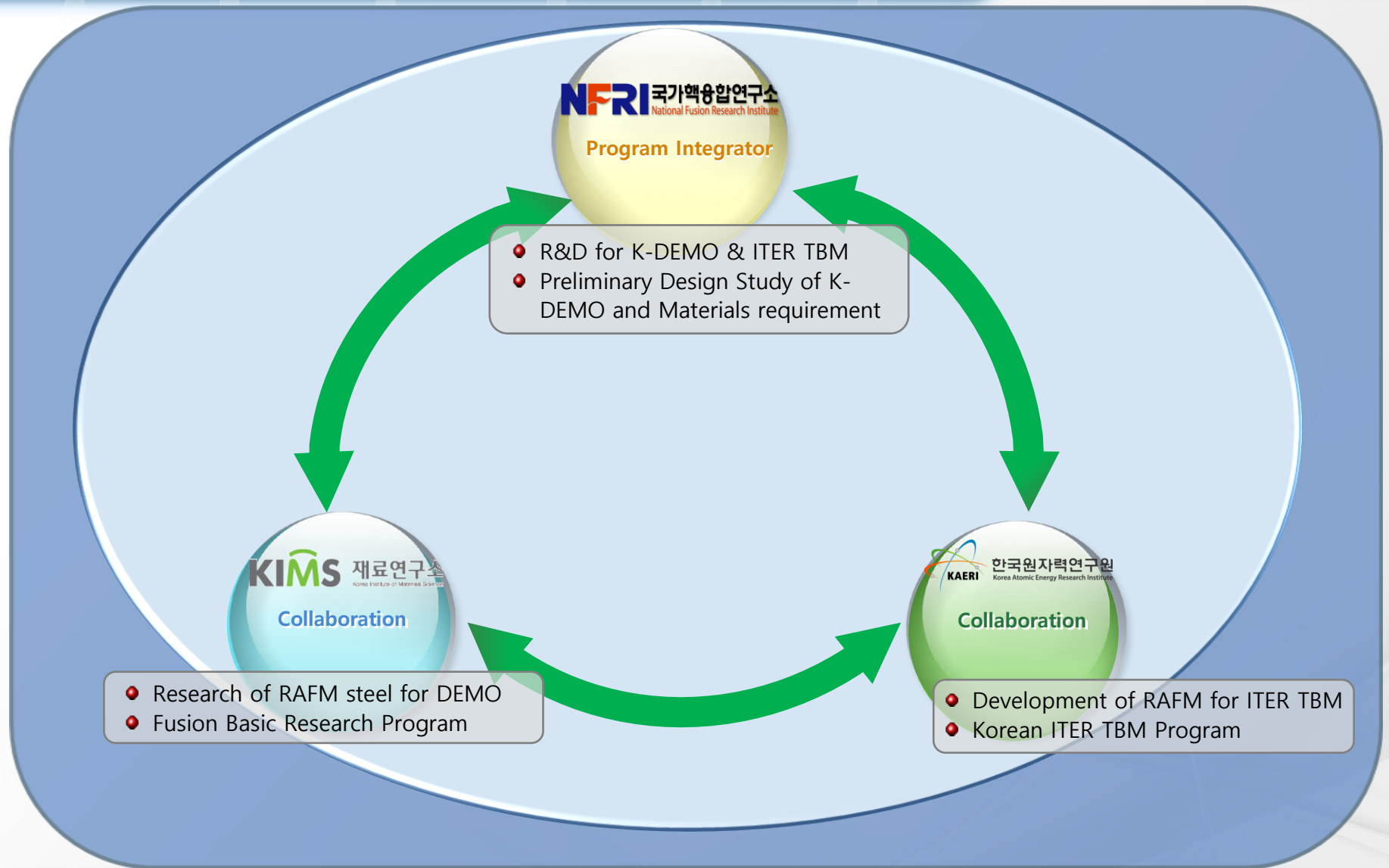


# Fusion Materials Research for K-DEMO & TBM Application



# Reduced Activation FM steels Research (1/2)

- Effect of constituent phase on microstructure and mechanical properties of 9Cr-1WVTa RAFM steels

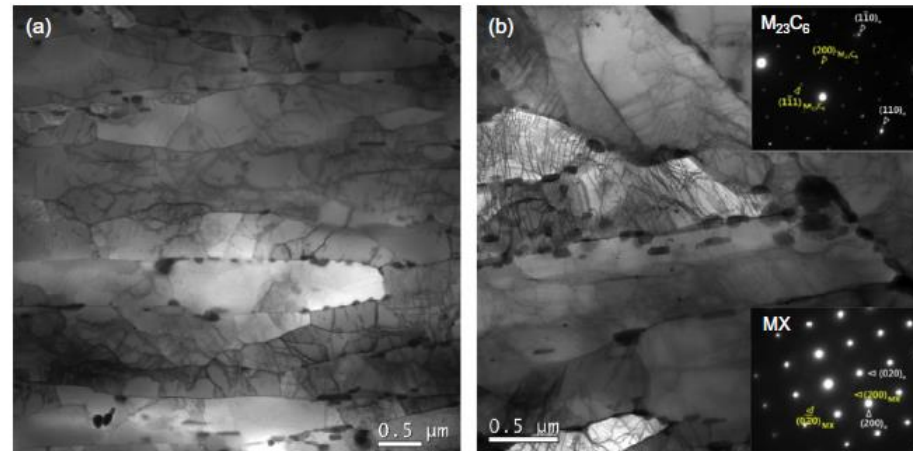


Fig. 6. TEM micrographs of M after tempering showing (a) tempered martensite lath and (b) M<sub>23</sub>C<sub>6</sub> carbides at boundaries and MX precipitates inside laths.

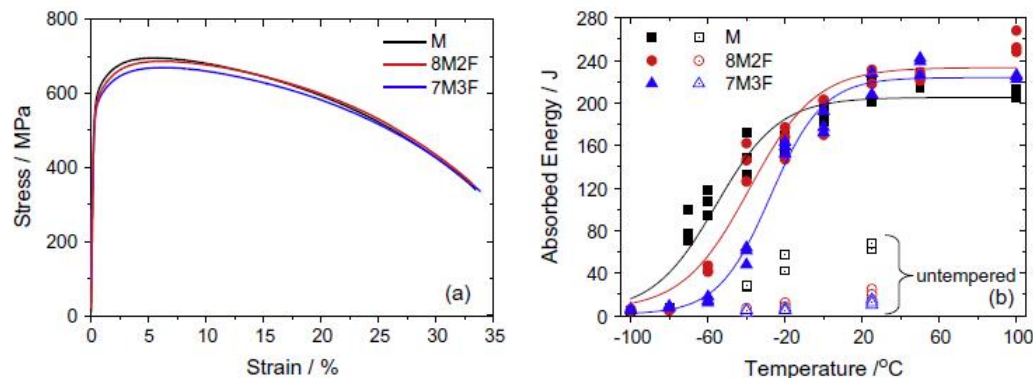


Fig. 7. (a) Tensile and (b) Charpy impact results after tempering.

# Reduced Activation FM steels Research (2/2)

- Effect of heat input in the Weld Heat-Affected Zone (HAZ) of 9Cr-2WVTa RAFM steels

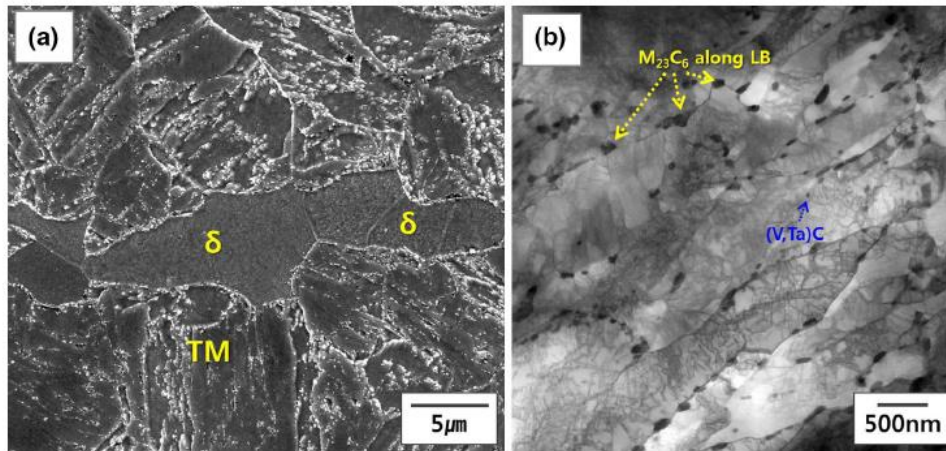


Fig. 10—Microstructure of HAZ 1 after PWHT: (a) SEM micrograph and (b) TEM micrograph. TM: tempered martensite.

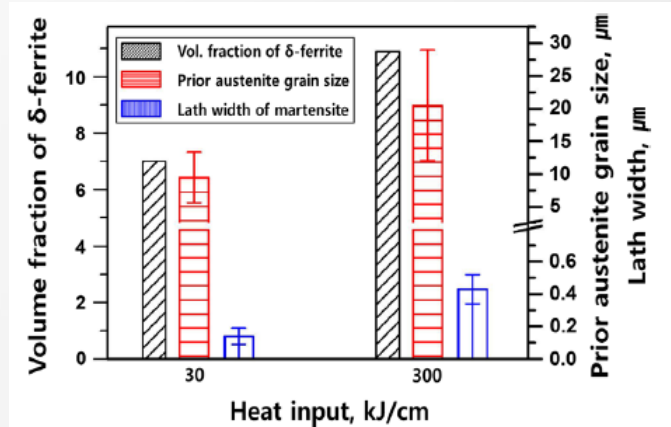


Fig. 9—Measured volume fraction of  $\delta$ -ferrite, prior austenite grain size, and lath width of martensite in the HAZs.

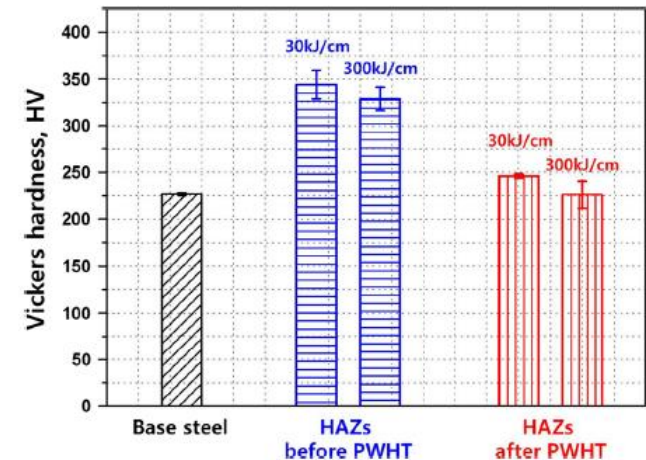


Fig. 11—Vickers hardness in the base steel and simulated HAZs.