

LOADING: ONCE THE ABOVE INFORMATION HAS BEEN ADDED TO THE FE MODEL THE SOLVER WILL BE ABLE TO CALCULATE THE STIFFNESS MATRIX FOR THE STRUCTURE. FROM THIS, A SET OF SIMULTANEOUS EQUATIONS CAN BE OBTAINED. IN ORDER TO SOLVE THESE, THEN THE LOADING AND BOUNDARY CONDITIONS NEEDS TO BE KNOWN. THAT IS TO SAY, HOW IS THE PART LOADED. IN WHAT DIRECTION, HOW IS IT CONSTRAINED? THIS CAN ALSO BE A SOURCE OF POOR CORRELATION (PROBABLY THE MAIN CAUSE OF POOR CORRELATION.) FOR EXAMPLE OVER WHAT AREA IS THE FORCE BEING APPLIED (IF THE PART IS BEING LOADED AT A SINGLE NODE, THEN IN THEORY THE STRESS IN THIS LOCATION WOULD BE INFINITE ( $\text{STRESS} = F/A$ )). IN WHAT DIRECTION? IT IS VERY EASY TO SAY FACE IS FIXED IN 6 DEGREES OF FREEDOM. (IE IT CAN NOT MOVE AT ALL) BUT THIS SUGGESTS THAT THE PART THE COMPONENT IS ATTACHED TO IS OF INFINITE ~~STRESS~~ STIFFNESS WHICH WILL NOT BE THE CASE