

RENAULT: Spot weld modelling for vehicle durability

Challenge

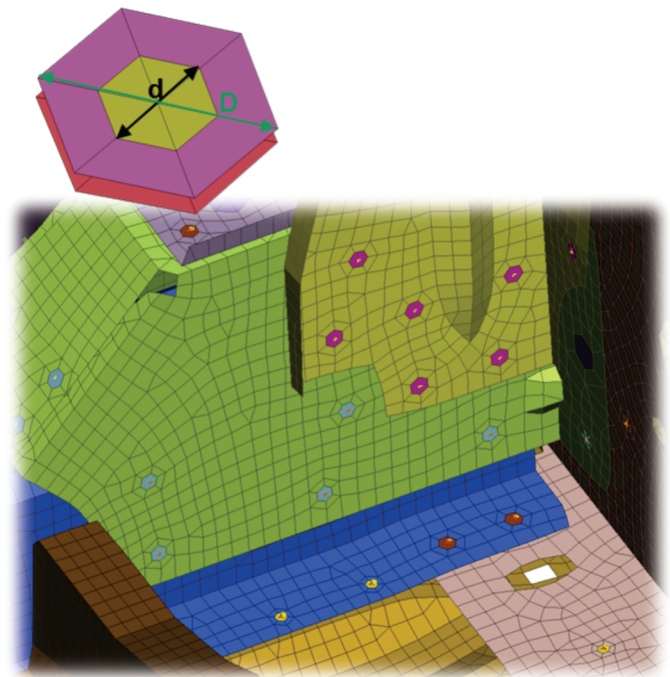
- The use of a spot weld model that gives a good representation of the real spot weld area and correlates well with tests.
- Such a complex spot weld model could not be adopted in production models in the past, due to the very high pre-processing time requirements.

Approach

- The ANSA Connections Manager was used, that combines the efficient handling of few thousands of connection points with the powerful local re-meshing capabilities of ANSA.
- The different areas of the spot weld are automatically assigned custom property and material attributes with the aid of a post-realization user-script.

Results

- The time for the generation of more accurate spot weld models has been drastically reduced, together with the possibility for monitoring errors during the assembly process.
- The implementation of such spot welds in the production durability models was made possible, increasing the overall model quality while keeping the pre-processing cost low.



The spot modeling was very time consuming in the loop of BiW durability study. We win a precious time with this script. The resulting mesh around spots can be checked with powerful scripts"

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