

## High-Formable Cold-Rolled (CR) 980-1470MPa High Strength Steel Sheet

### Benefits

- High strengthening and weight saving of Automotive body frame (BIW) parts

### Point

- Achievement of high strengthening and weight saving by higher formability than that of conventional DP steel

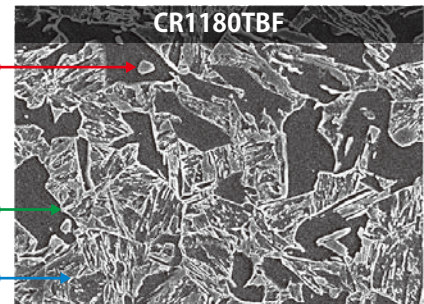
### Concept in micro-structure

- Control of microstructure into fine and optimum dispersion by adjusting cooling pattern in annealing process
- Ensure of high formability by microstructure of ferrite + fine retained  $\gamma$

Retained  $\gamma$  + martensite (MA)

Ferrite

Bainite + tempered martensite

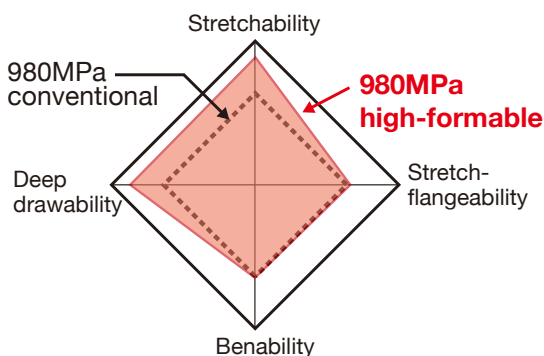


### Typical properties

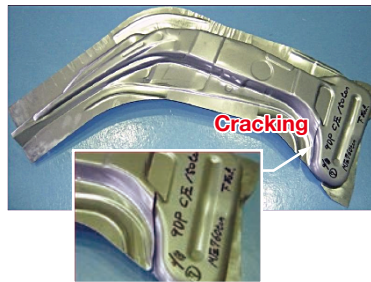
- Secure high elongation while maintaining  $\lambda$ -value

Steel	YS (MPa)	TS (MPa)	EL (%)	$\lambda$ (%)	Current status
CR 980TBF	650	1020	23	25	Mass production
CR1180TBF	900	1200	15	35	Mass production
<b>CR1470TBF</b>	<b>1000</b>	<b>1530</b>	<b>10</b>	<b>50</b>	Under development

### Comparison in formability with conventional steel (980MPa steel)



【 Conventional: CR980DP 】



【 Developed: CR980TBF 】



Available to form without cracking and wrinkles

Example of forming evaluation with simulated mold of front pillar