

## 《技術概要》 1470MPa級材の冷間加工技術



### ● 1470MPa級材適用の課題と対策

#### ◇ 板厚減少率

- 980MPa MAX -20.5%
- 1470MPa MAX -30.6%



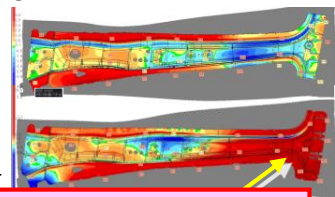
キレツ発生

【対策】  
部品形状検討／CAEの活用

#### ◇ 980MPa/1470MPa級材 精度差異

980MPa

1470MPa

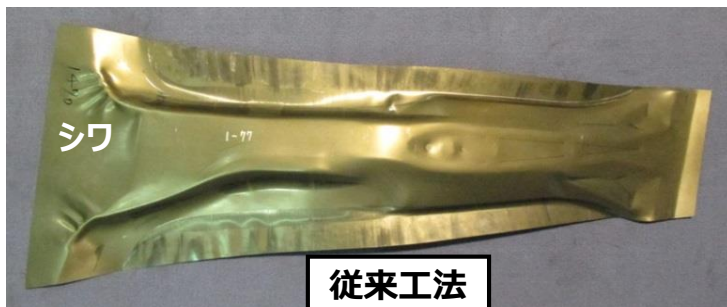


形状誤差：MAX25.2mm

ネジレ増大

【対策】  
面内不均一応力 緩和工法の適用

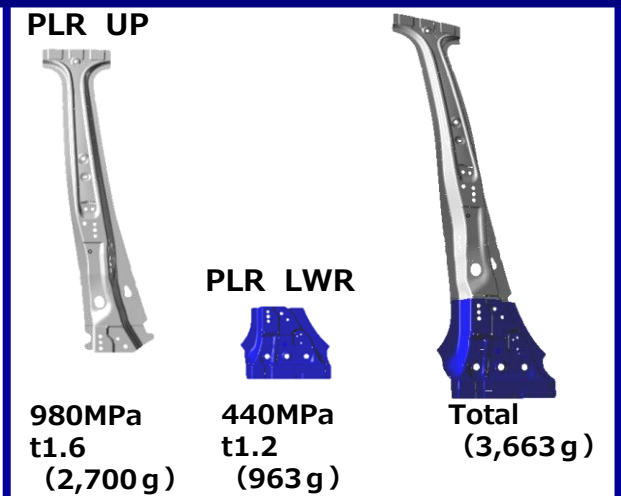
### ● 新技術によるウェブ面シワの抑制



軽量化効果試算：▲18%（現行比）

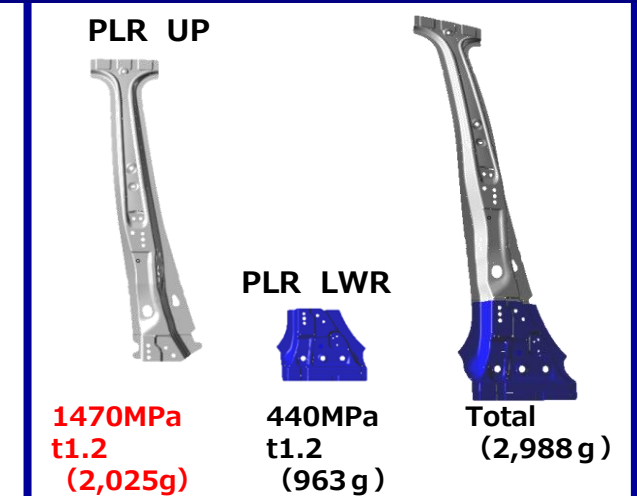
## 《Technical overview》 Cold working technology for 1470MPa grade materials

**980MPa material Cold processing (Current model)**



<b>980MPa</b> t1.6 (2,700 g)	<b>440MPa</b> t1.2 (963 g)	<b>Total</b> (3,663 g)
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**1470MPa material Cold processing (exhibition technology)**



<b>1470MPa</b> t1.2 (2,025g)	<b>440MPa</b> t1.2 (963 g)	<b>Total</b> (2,988 g)
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## ● Problems and solutions for applying 1470MPa grade materials

### ◇ Plate thickness reduction rate

- 980MPa MAX -20.5%
- 1470MPa MAX -30.6%

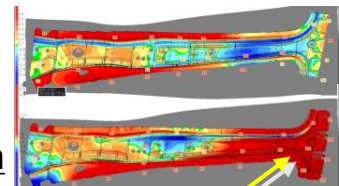


Cracks occur

【Countermeasures】  
Part shape research / Utilization of CAE

### ◇ Difference in accuracy

**980MPa**



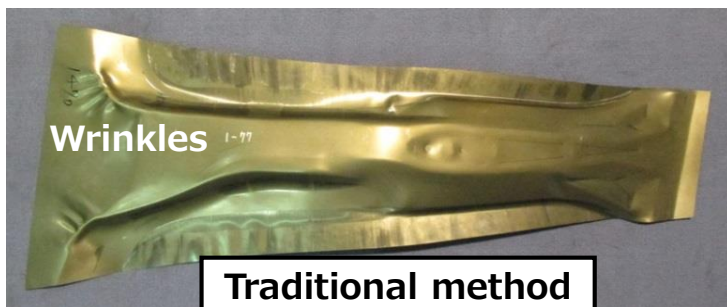
**1470MPa**

Dimensional error : MAX25.2mm

Increased twist

【Countermeasures】  
In-plane non-uniform stress application of mitigation methods

## ● Control web wrinkles with new technology



**Trial calculation of weight saving : ▲18% (Current ratio)**

### Contact

Nobukatsu Mashiko  
Sales Dept. 2, Sales Division,  
Product Development Center, H-ONE CO.,LTD

ZIP CODE: 330-0854

128-3, Hagadai, Hagamachi, Haga-gun, Tochigi TEL : +81-28-687-1166  
FAX : +81-28-687-1167