“Same Gauge” Laser Welded Blanks for Automotive Applications

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Assembly to Laser Welded Blank Conversion

Reinforcement + Material Nesting = 6.5 Lbs. Savings

Conventional Reinforcement & Rail Assembly

Rear Rail – Laser Welded Blank

1.7 mm

3.0 mm
Steel Consumption
Advanced and Ultra-High Strength Steel
Development of “Same Gauge” Laser Welded Blanks

Rocker Component

Laser Lines
Draw development and nesting

Finished

Formed

Unfolded / Blank
Body-In-White & B-Pillar

B-Pillar
Reinforcement
Over Lap
Draw development

35% Engineered Scrap

Finished Component

Blank Nesting

Offal – 35%
Development of “Same Gauge” Laser Welded Blanks
Conversion on Monolithic Cowl-side to “Same Gauge” - LWB
Roof Rail - Requirements

110”

Roof Rail

80”

Rocker
Discovery of other “Same Gauge” Applications – Developed Blanks exceeding 80”

Change from 52.4% to 92.0% Utilization
Heavy Gauge applications for
“Same Gauge” – LWB
Heavy Gauge applications for
“Same Gauge” – LWB

- Cradle Cross-members
- Control Arms
- Spring Hangers
- Rear Shock Towers
- Suspension Cross-members
More efficient – Heavy Gauge Suspension
Laser Welded- Nesting

Monolithic Blank Nesting

Adopted – Same Gauge Nesting

Vehicle Savings: $0.85
Three Major Areas of Review

“Same Gauge” Laser Welded Blanks

- Complex Blank Geometry
  - Body-sides
  - Pillars
  - Cowl-side
- Long Developed Blank (80” or 2032 mm)
  - Rockers
  - Roof Rails
  - Rails
- Heavy Gauge Blanks (3.0 mm +)
  - Suspension Components
  - Engine Cradle Components
Summary

• “Same Gauge” Laser Welded Blank methodology can be applied where ever poor material utilization and/or developed blanks are applied. Savings in material, and transversely, cost, can be applied using this technology.

• Think of “Same Gauge” Laser Welded Blank as not just the “Alternative” choice, but as the “Best” choice.
Thank You!