

# Bake Hardenable Automotive Exposed Sheet Steel



**U. S. Steel Canada**  
A Subsidiary of United States Steel

## StelBake-Ultra™ Coated Steels for Automotive Applications

**StelBake-Ultra™ is a highly formable zinc coated bake hardenable (BH) product for automotive exposed applications. With excellent formability, this product features dent resistance superior to both IF Rephosphorized and IF steels. StelBake-Ultra's™ improved dent resistance provides significant downgauging opportunities.**

### Metallurgical Principle

These ultra-low carbon steels achieve bake-hardening properties through a combination of precise control of chemistry during steelmaking and high temperature annealing and controlled cooling in a continuous annealing and galvanizing line. This process ensures a specific amount of free carbon is available to meet bake hardening requirements while maximizing storage life (StelBake-Ultra products have remained stable beyond 6 months in storage). In addition, the StelBake-Ultra steels have high yield strength while exhibiting high elongation and excellent formability with high n and r-values.

### StelBake-Ultra Dent Resistance

210BH-Ultra, the BH grade with 210MPa (30ksi) yield strength, provides 70% and 20% greater dent resistance than IF steel and equivalent strength IF Rephosphorized, respectively.

### Available Thickness, Width and Coating Types\*

APPLICATION	THICKNESS (mm)	MAX WIDTH	GALVANIZED COATING	GALVANNEAL COATING
EXPOSED	0.6 TO 1.0	1650		X

\* COATING LINE: Z-LINE

Please inquire about availability of other sizes not stated. Development plans for this family of steels are continuing.

### Mechanical Properties

Minimum values guaranteed on bare sheet in the rolling direction are given in the following table along with average total elongations, n and r-values (measured using ASTM A370 standard sheet specimens of 50 mm gauge length).

GRADE	YS* (MPa)	UTS* (MPa)	BHI* (MPa)	AVG TE (%)	AVG N-VALUE	AVG R-BAR
STELBAKE 210BH-ULTRA	210	320	14/30	40	0.23	1.7

\*MINIMUMS AS REQUIRED BY INDIVIDUAL CUSTOMER SPECIFICATIONS

### SPECIAL FEATURES

- Bake hardenable
- Excellent formability and superior dent resistance
- Up to 6 months storage life

### APPLICATIONS

- Automotive Exposed



**Hamilton Works**  
**U. S. Steel Canada**  
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