

# SUPERCORE™ Z100XP

Stainless ▪ AWS E2594T1/4

## KEY FEATURES

- Designed for strength and resistance to corrosion
- Used for joining supermartensitic stainless steels
- Superior resistance to stress corrosion cracking (SCC) and pitting corrosion

## WELDING POSITIONS

All

## SHIELDING GAS

80% Argon / 20% CO<sub>2</sub>

## CONFORMANCES

**AWS A5.22** E2594T1/4  
**BS EN ISO 17633-B** TS 2594-F M21 1

## TYPICAL APPLICATIONS

- Process Pipework
- Pressure vessels
- Valves
- Pumps

## DIAMETERS / PACKAGING

| Diameter mm (in) | 15 kg (33 lb) Spool |
|------------------|---------------------|
| 1.2 (0.045)      | SCZ100XP-12         |

## MECHANICAL PROPERTIES<sup>(1)</sup> – As Required per AWS A5.22/5.22M

|  | Yield Strength <sup>(2)</sup> MPa (ksi) | Tensile Strength MPa (ksi) | Elongation % | Charpy V-Notch J (ft-lbf) |                  | Hardness HV <sub>0.05</sub> |
|--|---|----------------------------|--------------|---------------------------|------------------|-----------------------------|
|  |   |                            |              | @-20 °C (-4 °F)           | @-50 °C (-58 °F) |                             |
| <b>Requirements</b><br>AWS E2594T1/4     | 550 min                                 | 760 min                    | 20 min       | -                         | -                | -                           |
| <b>Typical Performance<sup>(3)</sup></b> | 690                                     | 880                        | 25           | 40 (30)                   | 32 (24)          | 280                         |

## DEPOSIT COMPOSITION<sup>(1)</sup> – As Required per AWS A5.22/5.22M

|  | %C       | %Mn     | %Si      | %S        | %P        | %Cr       |
|--|----------|---------|----------|-----------|-----------|-----------|
| <b>Requirements</b><br>AWS E2594T1/4     | 0.04 max | 0.5-1.5 | 1.00 max | 0.02 max  | 0.030 max | 24.0-26.0 |
| <b>Typical Performance<sup>(3)</sup></b> | 0.03     | 1.0     | 0.5      | 0.005     | 0.02      | 24.5      |
|  | %Ni      | %Mo     | %Cu      | %N        | %W        | Pre       |
| <b>Requirements</b><br>AWS E2594T1/4     | 8.5-10.0 | 3.5-4.0 | 0.5-1.0  | 0.20-0.30 | 0.5-1.0   | 40        |
| <b>Typical Performance<sup>(3)</sup></b> | 9.1      | 3.7     | 0.6      | 0.22      | 0.6       | 41        |

## TYPICAL OPERATING PROCEDURES

| Diameter mm (in) | Amp Range | Volt Range | Stickout mm (in) |
|------------------|-----------|------------|------------------|
| 1.2 (0.045) DC+  | 120-250   | 22-34      | 15-20 (5/8-1)    |

<sup>(1)</sup> Typical all weld metal <sup>(2)</sup> Measured with 0.2% offset <sup>(3)</sup> See test results disclaimer

IMPORTANT: SPECIAL VENTILATION AND/OR EXHAUST REQUIRED

Fumes from the normal use of some welding products can contain significant quantities of components - such as chromium and manganese - which can lower the 5.0 mg/m<sup>3</sup> maximum exposure guideline for general welding fume.

BEFORE USE, READ AND UNDERSTAND THE MATERIAL SAFETY DATA SHEET (MSDS) FOR THIS PRODUCT AND SPECIFIC INFORMATION PRINTED ON THE PRODUCT CONTAINER.

*Material Safety Data Sheets (MSDS) and Certificates of Conformance are available on our website at [www.lincolnelectric.com](http://www.lincolnelectric.com)*

#### TEST RESULTS

Test results for mechanical properties, deposit or electrode composition and diffusible hydrogen levels were obtained from a weld produced and tested according to prescribed standards, and should not be assumed to be the expected results in a particular application or weldment. Actual results will vary depending on many factors, including, but not limited to, weld procedure, plate chemistry and temperature, weldment design and fabrication methods. Users are cautioned to confirm by qualification testing, or other appropriate means, the suitability of any welding consumable and procedure before use in the intended application.

#### CUSTOMER ASSISTANCE POLICY

The Lincoln Electric Company is manufacturing and selling high quality welding equipment, consumables, and cutting equipment. Our challenge is to meet the needs of our customers and to exceed their expectations. On occasion, purchasers may ask Lincoln Electric for information or advice about their use of our products. Our employees respond to inquiries to the best of their ability based on information provided to them by the customers and the knowledge they may have concerning the application. Our employees, however, are not in a position to verify the information provided or to evaluate the engineering requirements for the particular weldment. Accordingly, Lincoln Electric does not warrant or guarantee or assume any liability with respect to such information or advice. Moreover, the provision of such information or advice does not create, expand, or alter any warranty on our products. Any express or implied warranty that might arise from the information or advice, including any implied warranty of merchantability or any warranty of fitness for any customers' particular purpose is specifically disclaimed.

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