

Markal[®] Thermomelt[®] HEAT STIK[®]

Precision Surface Temperature Indicator for the Welding Industry



When it melts the precise temperature is reached.

Certified temperatures meet the following specifications:

- EDF PMUC
- MIL – STD-2041D
- US DOE RDT F-7-3T (expired)
- U.S. Navy C3070

Certification and analysis at www.markal.com

Critical temperature measurement applications:

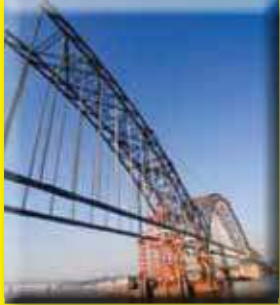
- Preheating
- Post-weld heat treating
- Interpass temperature monitoring
- Stress relieving
- Annealing

Used in following industries:

- Nuclear plants
- Shipyards
- Bridge construction
- Engine plants
- Boiler systems
- Power piping systems
- Metal fabrication plants
- Welding Industry

Meets welding codes:

- AWS D1.1
- ANSI/ASME Code B32.1 & B31.3
- ASME Code Sec. I, III and VII
- NIST traceable



Certified temperatures for use with power facilities

Fast, low-cost measurement

Superior accuracy, $\pm 1\%$ of rated temperature*

Engineered screw top holder prevents slipping

33% bigger, long-lasting



Make it Mark it Protect it


INDASOL[®]
GROUP

APPROVED MARKERS
for The Nuclear Industry


INDASOL[®]
GROUP

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www.indasol.co.uk

ST.2100 / ST.2100 PMUC

Ball tube marker for stainless steel marking



Markal® ST.2100 is a metal-ball tip marker that meets European nuclear requirements.

The low sulfur and low chloride content allows for safe marking on stainless steel. The aluminum squeeze tube and thick paint makes it suitable for vertical and overhead surfaces.

Markal® ST.2100 PMUC is a unique metal-ball tip marker certified for nuclear plants in France. Each marker is traceable to a manufactured batch number on the PMUC certificate that is required and controlled by EDF.

- Safe for use on stainless steel and other alloy metals where corrosion resistance is a requirement
- ST.2100: Paint formula confirmed using a typical analysis to contain:
 - 200 ppm total halogens
 - 200 ppm sulfur
- ST.2100 PMUC: Each marker is delivered with a batch number and an official certificate with the product shipment. Official PMUC certification:
 - 200 ppm total halogens (chlorides, fluoride, bromide, iodine)
 - 200 ppm sulfur
- 6 low sulfur and low chloride paint colors are weather, water and UV-resistant
- Marking range: -20°C to 70°C
- Mark temperature resistance: 200°C

Industry uses:

- Ship building and repair
- Power generation facilities
- Aviation and aerospace
- Oil and gas
- Welding
- Industrial manufacturing
- Metal fabrication

Surfaces uses:

- Stainless steel
- Alloy and super alloy metals
- Alloy metals

Details:

ST.2100 - 3 mm:

- | | | |
|----------|----------|----------|
| 10230123 | 10230223 | 10230323 |
| 10230423 | 10230523 | 10230623 |

6 mm:

- | | | |
|----------|----------|----------|
| 10260123 | 10260223 | 10260323 |
| 10260423 | 10260523 | 10260623 |

ST.2100 PMUC - 3 mm:

- | | | |
|----------|----------|----------|
| 10630123 | 10630223 | 10630323 |
| 10630423 | 10630623 | |

SL.250 / SL.250 PMUC

Liquid paint marker for stainless steel marking



SL.250 is a xylene-free, low-odor, and fast-drying liquid paint marker that meets the European nuclear requirements. The low sulfur and low chloride content allows for safe marking on stainless steel.

France. Each marker is traceable to a manufactured batch number on

low chloride content is safe for use on stainless steel, alloy, and other super alloy metals where corrosion resistance is a requirement.

- Safe for use on stainless steel and other alloy metals where corrosion resistance is a requirement
- SL.250: Paint formula confirmed using a typical analysis to contain:
 - 200 ppm total halogens
 - 200 ppm sulfur
- SL.250 PMUC: Each marker is delivered with a batch number and an
 - 200 ppm sulfur
- Fast-drying, permanent paint for immediate handling reduces work downtime
- Medium bullet tip resists wear to provide long marking life
- Marking Range: -20°C to 50°C
- Mark temperature resistance: 100°C

Industry uses:

- Nuclear-power generation
- Ship building and repair
- Power generation facilities
- Aviation and aerospace
- Oil and gas
- Welding
- Industrial manufacturing
- Metal fabrication

Surfaces uses:

- Stainless steel
- Alloy and super alloy metals
- Alloy metals

Details:

SL.250

- | | | |
|----------|----------|----------|
| 31200129 | 31200229 | 31200329 |
| 31200429 | 31200529 | 31200629 |

SL.250 PMUC

- | | | |
|----------|----------|----------|
| 31600129 | 31600229 | 31600329 |
| 31600429 | 31600629 | |

RIGHT FOR THE JOB.



Product and Solution Insights

Solution Opportunities

- Need low corrosion and batch traceable certified LPM's and temperature indicating sticks for nuclear construction project for use on stainless steel and super alloys.
- Current batch traceable options require long lead-times, large volume purchase, and high-costs for certification.

Solving The Problem

- Certified line of products are individually lot analyzed and certified to meet exceedingly low levels of Chlorides, Halogens, Low Melting Point Metals, and Sulfur, all potentially corrosion inducing compounds.
- Certified products are pre-analyzed and certified for immediate shipping and fulfillment, an industry first.

Customer Benefits

- Peace of Mind - Pre-certified to be low in corrosion causing compounds eliminated concerns of pitting, inclusions, or degradation of surfaces or welds.
- Reduced Inventory & Lead-time - Maintained as a standard stock item for reliable availability and quick product to reduce inventory carrying costs.
- Guaranteed Compliance - Full analyses and certificates are easily located and referenced at www.markal.com for 24/7 access and guaranteed compliance.

Finding New Opportunities

Key Applications: Nuclear Power Generation, Power Generation Facility, Oil and Gas, Military, Welding, Aviation & Aerospace.

- Do you know if your current low-Chloride/low-Halogen marker has been lot tested and certified?
- Does your job require a batch analysis and lot traceability?