

# Markal®

**High Performance Industrial Markers**



## LOW CORROSION MARKER GUIDE

*Low Chlorides & Halogens Product*



## What are low corrosion markers?

As technology continues to advance, many industries such as nuclear power generation, oil refining, aerospace, shipbuilding, and the military are relying upon stainless steel and various alloy metals for use in highly sensitive equipment. These environments often utilize high pressures, temperatures or hazardous materials, and unwanted corrosion can weaken this sensitive equipment and cause dangerous health and safety risks.

To meet the demanding needs of these industries, Markal® offers the largest selection of industrial marking solutions to be low in corrosive chemicals. Engineered to be low in chlorides, all other halogens, sulfur and low melting point metals, these products will not contribute to unwanted corrosion, degradation, pitting, or general weakening of these sensitive materials.



## Frequently Asked Questions:

### Which elements does Markal test their low corrosion markers for?

Although chlorides are highly corrosive chemicals, they are not the only ones tested for by Markal. To ensure the lowest chance of unwanted corrosion, our tests include chlorine and all other halogens, sulfur and all low melting point metals.

### What specifications are Markal low corrosion markers confirmed to meet?

Test results confirm that these products contain less than 200 ppm of total halogens, and 250 ppm of sulfur and each low melting point metal, meeting the MIL – STD-2041D and US Energy Research and Development Administration's RDT F-7-3T specifications.

### Is a typical analysis available for these products?

A typical analysis is available for all the included products via our website, [www.markal.com/lowhalogen](http://www.markal.com/lowhalogen).



## Are your markers Certified?

Unlike most low corrosion markers, which rely upon a typical analysis only, our Certified products are the industry's only line of individually lot analyzed, certified and traceable industrial marking solutions. Using a 3rd party testing facility, every batch of our Certified products is tested and certified to meet the most stringent U.S. and international nuclear and military specifications.

- All products are in stock, eliminating testing and certification lead-time
- Every marker is imprinted with a lot code for traceability
- Full analysis and certificate is available for viewing or download at [www.markal.com](http://www.markal.com)

*All Certified Markal products are approved to meet the following nuclear and military specifications:*

- RDT F-7-3T
- MIL – STD-2041D
- EDF PMUC
- U.S. Navy C3070

*All Certified Markal products are confirmed to meet the following levels of corrosive chemicals:*

- <200 ppm total halogens
- <250 ppm each low melting point metals
- <300 ppm total low melting point metals
- <200 ppm sulfur



### Certified Valve Action® Paint Marker

Permanent liquid paint marker with valve actuated tip for smooth, continuous marking. The fast-drying, wear-resistant formula is xylene-free to reduce health risks, and certified safe for stainless steel and other super alloys.

- Weather, water, and UV resistant
- Marking Range: -50°F to 150°F (-46°C to 66°C)

PART NO.	COLOR
96880	White
96881	Yellow
96882	Red
96883	Black



### Certified Thermomelt® Temperature Indicator Sticks

Ideal for welding, annealing, forging and any place temperature measuring is required, Thermomelts are an accurate, low-cost method for temperature measurement. Sticks quickly melt when proper temperature rating is reached, and certified safe for stainless steel and other super alloys.

- Accurate to within  $\pm 1\%$  of rated temperature
- Meets ANSI/ASME Code B32.1 & B31.3, AWS D1.1 and ASME Code Sec. I, III, and VII, NIST Traceable

F	C	PART NO.	F	C	PART NO.
100	38	89100	350	177	89350
125	52	89125	375	191	89375
150	66	89150	400	204	89400
175	79	89175	425	218	89425
200	93	89200	450	232	89450
225	107	89225	475	246	89475
250	121	89250	500	260	89500
275	135	89275	525	274	89525
300	149	89300	550	288	89550
325	163	89325	650	343	89650

## Low Corrosion Markers

Using a typical analysis provided by a third party testing facility, these markers are confirmed to contain less than 200 ppm of chlorides and total halogens, and less than 250 ppm of sulfur and each low melting point metal. A typical analysis is available for any of the following items.



### Valve Action® Paint Marker

Permanent liquid paint marker engineered for durability with an industrial grade metal barrel, wear resistant nib, and durable clip cap. The xylene-free formula reduces health risks and is safe for almost any surface, making it the safest and most versatile industrial marker in the world.

- Weather, water, and UV resistant
- DURA-NIB medium bullet tip
- Marking Range: -50°F to 150°F (-46°C to 66°C)

PART NO.	COLOR
96809	Brown
96817	Purple
96820	White
96821	Yellow
96822	Red

PART NO.	COLOR
96823	Black
96824	Orange
96827	Gold
96830	Pink
96832	Aluminum



### PRO-LINE® HP

Permanent liquid paint marker developed for unsurpassed marking performance on greasy and oily surfaces. The high-performance formula is safe for almost any surface and penetrates through oil to dry quickly and provide bold, sharp marks.

- Xylene-free formula reduces health risks
- Weather, water and UV resistant
- Marking Range: -50°F to 150°F (-46°C to 66°C)

PART NO.	COLOR
96960	White
96961	Yellow
96962	Red
96963	Black
96967	Silver

### Dura-Ball®

Weather and fade resistant liquid paint marker in a convenient squeeze tube. Durable steel tip is available in three sizes and is ideal for rough or smooth surface writing, and can mark on vertical or overhead surfaces without running or dripping.

- Safe for any hard surface and dries in 5 minutes
- Marking Range: -50°F to 150°F (-46°C to 66°C)



#### PART NO. COLOR

##### Tip Size 5/64"

96640	White
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##### Tip Size 1/8"

96652	White
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##### Tip Size 3/16"

96664	White
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## BALL PAINT MARKER®

Pocket-sized liquid paint marker, ideal for rough surface marking with durable squeeze bottle and wear-resistant metal tip. Paint formula dries within 5 minutes and is safe for use on almost any surface.



- Marks are weather, water and fade-resistant
- Marking Range: -50°F to 150°F (-46°C to 66°C)

PART NO.	COLOR
84620	<input type="checkbox"/> White
84621	<input checked="" type="checkbox"/> Yellow
84622	<input checked="" type="checkbox"/> Red
84623	<input checked="" type="checkbox"/> Black

## B® Paintstik®

Our most versatile and economic marker, the original B® Paintstik® solid paint marker combines the durability of paint in the convenience of a crayon. The real paint formula has superior marking performance on oily, icy, wet, dry or cold surfaces and is weather- and UV-resistant. This Paintstik® works on rough, rusty, smooth, or dirty surfaces.

- Real paint for long-lasting, highly visible marks
- Solid paint marker eliminates replacement tips, sharpening or priming, increasing productivity
- Marking Range: -50°F to 150°F (-46°C to 66°C)



### PART NO. COLOR

**Standard Size: 11/16" x 4 3/4"**

80220	<input type="checkbox"/> White
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**Fine Size: 3/8" x 4 3/4"**

80420	<input type="checkbox"/> White
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**King Size: 1" x 4 3/4"**

80260	<input type="checkbox"/> White
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## DURA-INK® Permanent Ink Markers

Fast-drying, smear and water resistant permanent ink markers designed for industrial grade environments, and built with extra-large ink supplies for longer life. Durable barrels and caps prevent unwanted breakage, and extra-tough nibs won't spread or mush.



### PART NO. COLOR

**DURA-INK® 15 Fine Bullet Tip**

96022	<input checked="" type="checkbox"/> Red
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**DURA-INK® 25 King Size, Chisel Tip**

96222	<input checked="" type="checkbox"/> Red
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**DURA-INK® 55 Medium Tapered Chisel Tip**

96528	<input checked="" type="checkbox"/> Red
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**DURA-INK® 60 Medium Bullet Tip**

96535	<input checked="" type="checkbox"/> Red
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**DURA-INK® 200 Broad Chisel Tip**

96916	<input checked="" type="checkbox"/> Red
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### TRADES-MARKER®

Mechanical and easy to refill non-toxic marker in durable plastic holder. Convenient refills eliminate the waste and mess of paper wrapped markers, provide weather and rub resistant marks and are safe for all surfaces.

- One handed push-button advance
- Ideal for smooth or rough surfaces

#### PART NO. COLOR Starter Pack, 1 Holder & 12 Refills

96132	Red
96133	Black

#### Refill Pack, 12 Refills

96242	Red
96243	Black



### Thermomelt® Temperature Indicator Sticks

Ideal for welding, annealing, forging and any place temperature measuring is required, Thermomelts are an accurate, low-cost method for temperature measurement. Sticks quickly melt when proper temperature rating is reached, and are 33% bigger and stronger than other indicators for longer life.

- Accurate to within  $\pm 1\%$  of rated temperature
- Meets ANSI/ASME Code B32.1 & B31.3, AWS D1.1 and ASME Code Sec. I, III, and VII, NIST Traceable

F	C	PART NO.	F	C	PART NO.
100	38	86400	350	177	86697
125	52	86436	375	191	86715
150	66	86463	400	204	86733
175	79	86481	425	218	86751
200	93	86517	450	232	86769
225	107	86544	475	246	86787
250	121	86562	500	260	86805
275	135	86589	525	274	86814
300	149	86625	550	288	86823
325	163	86661	650	343	86859

### Silver-Streak® & Red-Riter® Metal Markers

Fineline marker ideal for metal layout and fabrication work and safe for use on all metal surfaces. Marks are more highly resistant to torch flames and visible through filter plates than soapstone and available in easy to advance metal holders.

#### PART NO. DESCRIPTION Silver-Streak

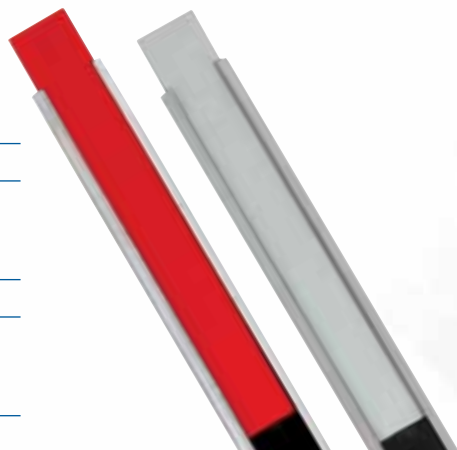
96018	Flat-25 Refills
96002	Flat-100 Refills

#### Red-Riter

96005	Flat-1 Holder, 4 Refills
96019	Flat-25 Refills

#### Metal Holder

96017	10 Pack
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