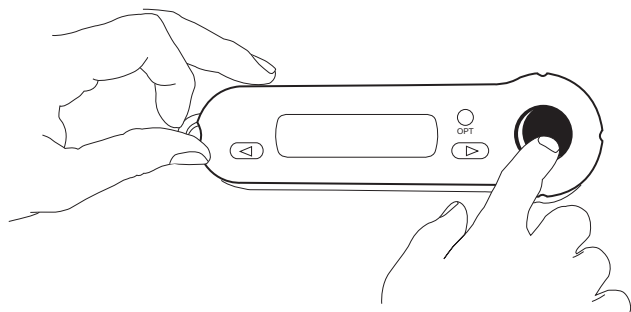


MatchStik™



User Manual



CE DECLARATION

Manufacturer's Name: X-Rite, Incorporated
Manufacturer's Address: 4300 44th Street, S.E., Grand Rapids, Michigan U.S.A.
Model Name: Colorimeter
Model No.: RMI 10
Directive(s) Conformance: EMC 89/336/EEC

WEEE

As of August 13, 2005, X-Rite products meet the European Union – Waste Electrical and Electronic Equipment (WEEE) directive. Please refer to www.xrite.com for more information on X-Rite's compliance with the WEEE directive.



FEDERAL COMMUNICATIONS COMMISSION NOTICE

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

INDUSTRY CANADA COMPLIANCE STATEMENT

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

EQUIPMENT INFORMATION



Use of this instrument in a manner other than that specified by X-Rite, Incorporated may compromise design integrity and become unsafe.

WARNING: This instrument is not for use in explosive environments. For your safety, do not look directly into the target window when the instrument is on.

LIMITED WARRANTY

X-Rite, Incorporated warrants each instrument manufactured to be free of defects in material and workmanship for a period of 12 months. X-Rite will replace the instrument at no charge to you, provided you return it (postage prepaid, with proof of your purchase) during the first 12 month period, after the date of your original purchase of the instrument. The instrument is not eligible for repair.

Return for warranty replacement to: X-Rite, Incorporated
4300 44th Street S.E.
Grand Rapids, MI 49512

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This product may be covered by one or more patents. Refer to the instrument for actual patent numbers.

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1. INTRODUCTION

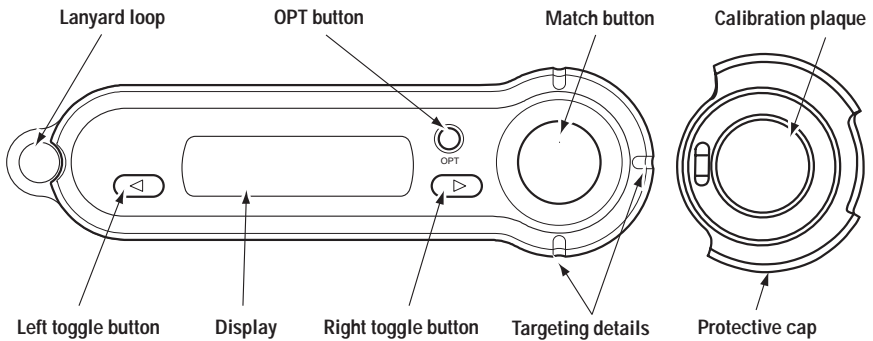
Thank you for purchasing the X-Rite MatchStik, an instrument for matching paint colors to existing colors. The instrument matches the colors of your samples to specific fan deck data, stored in the instrument's memory. Within seconds, you will know the number of the closest color in the stored fan deck that matches your sample.

PACKAGE CONTENTS

This package should contain the following:

- MatchStik Instrument
- User manual and quick start guide
- Lanyard
- Protective cap with calibration plaque
- 4 "AAA" batteries (6Vdc)

2. FEATURES



Lanyard loop: provides a secure way to carry your instrument.

OPT button: used to access the options (fan deck, sheen, match delete, and power off).

Match button: used to turn on the instrument and initiate a color match. It is located directly over the target window to help you position the instrument.

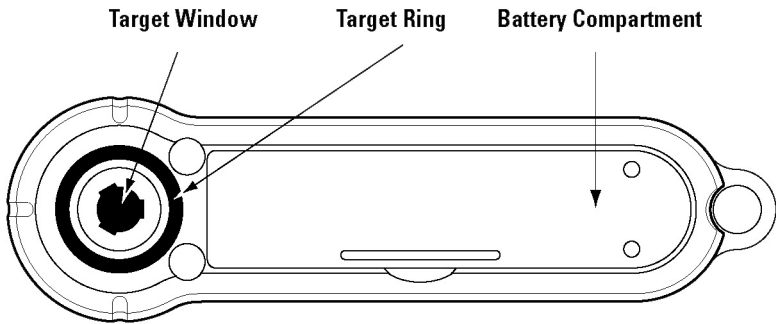
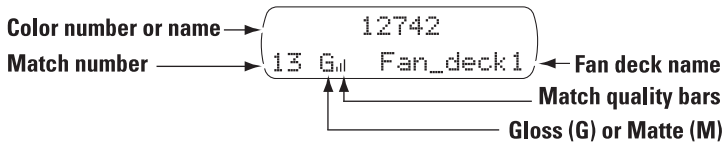
Left and right buttons: allow you to navigate through the stored matches, select an action, or an option.

Targeting details: assist in alignment of the instrument over the sample.

Protective cap: used to calibrate the instrument and protect the targeting area when the instrument is not in use.

Display: communicates color information, instrument status, and choices. The color information includes:

- Corresponding color number or name
- Stored match number
- Corresponding fan deck name
- Sheen selection (gloss or matte)
- Match quality bars (good, better, or best)



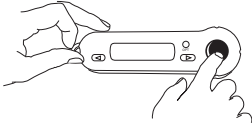
Target window: surrounds the sensors that read the sample colors

Target ring: blocks ambient light from the target window

Battery compartment: holds 4 "AAA" batteries (6Vdc). To access the compartment, remove the cover.

Power Supply: The MatchStik is powered by 4 "AAA" batteries (6Vdc). When the batteries need to be replaced, a "LOW BATTERY" warning will appear on the display.

3. USING THE MATCHSTIK INSTRUMENT



To turn the instrument on, press and hold the large round **MATCH** button until characters appear in the display (approximately 3 sec.). Your instrument will automatically calibrate during power up. Please make

sure the protective cap is on correctly to ensure proper calibration. If no characters appear, replace or install the batteries. If the problem persists, call Technical Support for assistance (see p. 17).

If you hold the instrument by its sides, it should be easy to press the large round **MATCH** button with your index finger.

To match a color, remove the protective cap and place the instrument flat against a color sample with the center of the sample positioned under the target ring. Hold the instrument steady and press and release the large round **MATCH** button. It is important that the instrument is held steady for the duration of the match. Color information will appear in the display in approximately 2 seconds after release. Refer to Section 8 for matching details.

Horizontal, vertical, and angled orientations are acceptable as long as the target ring blocks all light from the sample.

When the matching process is complete, the number/name of the color in the instrument's database that best matches your sample's color appears in the display.

More than one color may be an acceptable match. The instrument will select the closest color match.

4. POWERING UP THE INSTRUMENT

Power On

The instrument is powered on by pressing any holding the large round **MATCH** button for approximately 3 seconds. When turned on, it performs a series of power up operations and *automatically calibrates* the instrument when the protective cap is attached. Please refer to Section 6 for additional information on calibration.

The following information is displayed during a power up: welcome screen, remaining battery power, auto calibration screens, and last stored match, if any.

When the power up sequence and auto calibration is finished, you can select your options, review current stored samples, or match a sample.

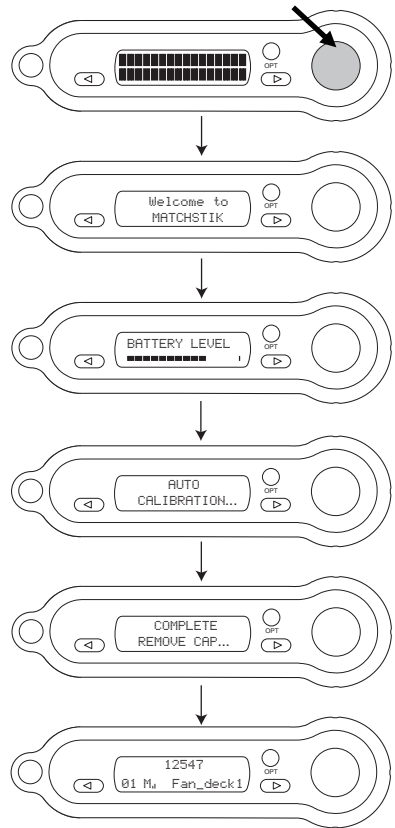
If you are matching for the first time, you should set the fan deck and sheen (gloss or matte) options before continuing. See Section 7 for additional information.

To review stored samples press the **LEFT** or **RIGHT** buttons.

To match a sample, simply remove the protective cap, position the instrument on the sample and press the large round **MATCH** button. See Section 8 for additional information.

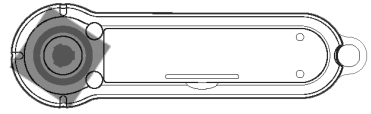
Power Off

If the instrument is not used for 3 minutes, it turns off automatically to conserve battery power. You can also force a power off of the instrument by pressing the **OPT** button four times to access the "Power Down" screen. From this screen, press the **RIGHT** button to turn off the instrument. Refer to Section 7 to view screen details.



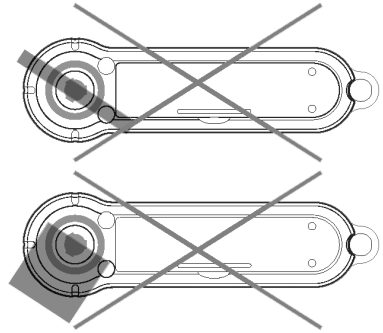
5. SELECTING THE IDEAL SAMPLE

The instrument is intended for samples that fill the target window, approximately 1/2 in. (1.27 cm). For best results, samples should be large enough to fill the entire target ring.



Obtaining a Good Match

The instrument works best on samples that are dry, solid in color, opaque, and smooth in texture. Samples can be oriented horizontally (as on a table top), vertically (on a wall), or at an angle. To obtain a good match, make sure the entire target ring is flat against the sample and the instrument is held steady during the match.



Curved or uneven sample: If the sample has a very curved or uneven surface, try taking several measurements at different positions on the sample. The color that is shown most often is the closest match.

Small sample: If the sample is smaller than the target ring, use the targeting details on the instrument to help you position it accurately. You may want to take several measurements to ensure that the sample is being measured correctly; use the color that is shown most often.

Thin or translucent sample: If the sample is thin, place it on a flat surface before taking a measurement. If the sample is not opaque, place it on a white (plain paper) backing before taking a measurement.

Non-ideal Samples

Successful color matches will be difficult or impossible to obtain if samples have any of the following characteristics:

- Curved surfaces
- Textiles
- Samples that change appearance based on point of view, which may contain metallic, flake, or pearlescent colorants
- Samples that are highly textured, such as stucco
- Samples that are not uniformly colored, such as plaids and carpeting
- Samples that appear unusually bright (may contain fluorescing pigments)

6. CALIBRATING THE INSTRUMENT

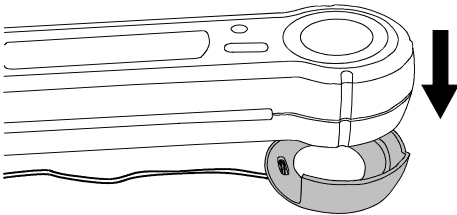
The MatchStik instrument includes a protective cap attached to the lanyard loop. Calibration is quick and easy and should be performed on a regular basis. Calibration of the instrument ensures optimum color matching performance. The instrument will automatically calibrate every time it is turned on, when the protective cap is attached. If the cap is not attached on power up, calibration can still be performed. See *Calibrating on page 11* for additional information.

Please use the protective cap that is attached to your instrument for calibration. Using a cap from another instrument may cause your instrument to fail calibration. If you have misplaced or lost your protective cap, please contact Technical Support (See p. 17) for a replacement or for further details. If your cap is missing, you can temporarily skip the calibration procedure to perform color matching until you receive a replacement cap. Refer to page 11 for details.

Attaching the Protective Cap

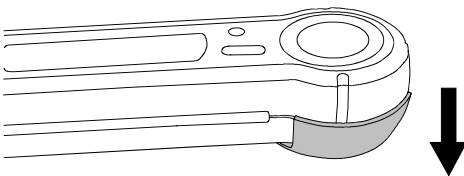
IMPORTANT: The protective cap is dramatically affected by smudge marks and dust, and must be kept clean. Do not get finger prints on the calibration plaque located in the bottom of the cap. It is recommended that the instrument is cleaned regularly. Please refer to Section 11 for procedure on cleaning the protective cap and calibration plaque.

Align the cap under the head of the instrument as shown. Press the instrument into the protective cap until it snaps into position.



Removing the Protective Cap

Pull downward on both sides of the protective cap to remove it from the instrument.



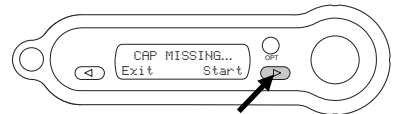
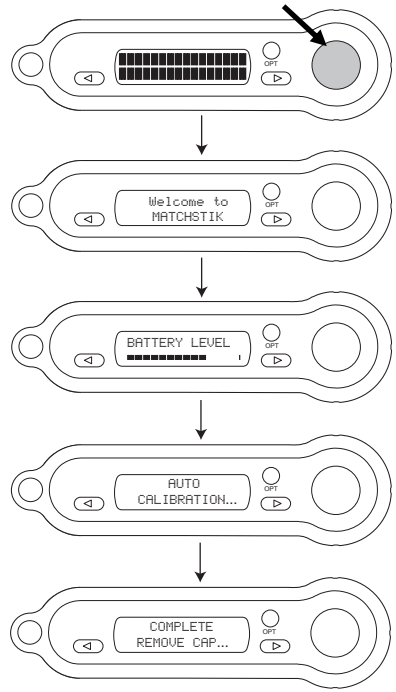
Calibrating

1. Make sure the instrument is powered down and the protective cap is correctly attached.
2. Press the large round **MATCH** button until characters appear in the display (approx. 3 seconds).
3. The instrument will perform a series of power up operations, and display "Auto Calibration", followed by "Complete. Remove Cap." You can now remove the cap as previously explained and begin matching.

If "Warning" appears after the auto calibration screen, the instrument's target window or protective cap requires cleaning. Refer to Section 11 for cleaning procedures.

If "Cap Missing" appears after the auto calibration screen, the protective cap is not attached during power up. In this case, you can press the **RIGHT** button (Start), attach the protective cap, and press the large round **MATCH** button to calibrate.

You can also skip calibration by pressing the **LEFT** button (Exit) if you do not have a protective cap, or if the instrument was already calibrated.



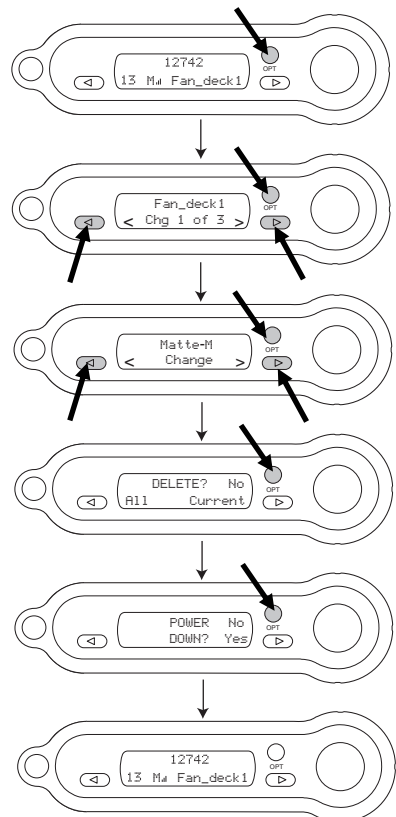
7. SELECTING THE INSTRUMENT OPTIONS

Before measuring a sample for a match, you must select the fan deck and sheen (gloss or matte) options that will be used. Once set, the options will remain as the defaults until changed. The fan deck option allows you to choose the specific fan deck you would like to use for sample matching, if more than one exists in the instrument. You can also choose to use all available fan decks for sample matching. The instrument will display the sample name and fan deck name after a match is found. The sheen option allows you to choose the type of sample surface that you will be measuring. You can choose between a “gloss” sample and a “matte” sample. Gloss would be selected if you are trying to match a glossy or semi glossy sample. And matte would be selected if you are trying to match samples that are flat in appearance.

NOTE: If the sheen setting is changed after taking the measurement, you must remeasure the sample to find the correct match. Any stored sample matches that exist in the instrument will be lost if a new fan deck is selected.

Changing the Options

1. From the main display screen, press the **OPT** button to enter the fan deck selection screen.
2. Press the **LEFT** or **RIGHT** button to choose the desired fan deck. You can also select ALL to utilize all the available fan decks for sample matching.
3. Press the **OPT** button again to access the sheen selection screen. Press the **LEFT** or **RIGHT** button to choose between Gloss (G) or Matte (M) option.
4. At this point, you can simply start making matches (refer to Section 8 for details), or you can press the **OPT** button three times to return to the main display screen.

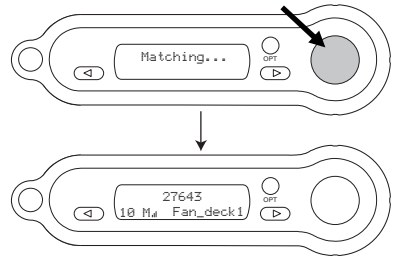


8. MATCHING A COLOR

Performing a Match

Once the instrument has been powered up and the sheen and fan deck options selected, it is ready to make a color match.

To perform a match, remove the protective cap, position the head of the instrument flat against your sample. Make sure the entire target ring is flat against the sample so that all light is blocked during the match. Hold the instrument steady and press and release the large round **MATCH** button.



As the instrument is performing a match, the screen displays a “Matching...” notification. The instrument takes about 2 seconds to produce a color match; it is important to **hold the instrument steady without moving** for the entire duration of the match.

When the match is complete, the screen displays the number and/or name of the fan deck color that matches your sample’s color, and a match quality indication (see below for details). More than one color may be an acceptable match. The MatchStik instrument will select the closest color match.

Match Quality Indication

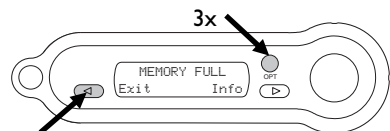
After a match, the instrument displays 1, 2 or 3 bars in the bottom row of the display (between the sheen and fan deck options). The bars indicate the quality of the match that was obtained. One bar indicates a good match; two bars indicate a better match; and three bars indicate the best match.

The bars are for informational purposes only. Three bars is the best possible match, where as one or two bar indication basically informs you that instrument made a suitable match. The lower the bar measurement, the more likely color differences will be noticed.

Full Memory

The instrument stores up to 20 matches. If the memory is full when you attempt to match a color, the screen displays “MEMORY FULL.” Press the **OPT** button

three times to access the delete screen (see Deleting Stored Matches on the next page for more information). If you do not want to delete stored matches, press the **LEFT** button to return to the last match.



9. DELETING STORED MATCHES

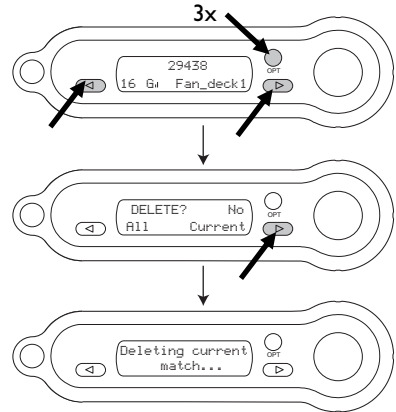
The instrument stores up to 20 matches. The display screen shows the most recent match that was taken.

To toggle through stored matches, use the **RIGHT** and **LEFT** buttons.

To clear memory space on the instrument, you may delete either one or all of the stored matches. Press the **OPT** button three times to enter the delete screen. You can exit the delete sequence at any time by pressing the **OPT** button again.

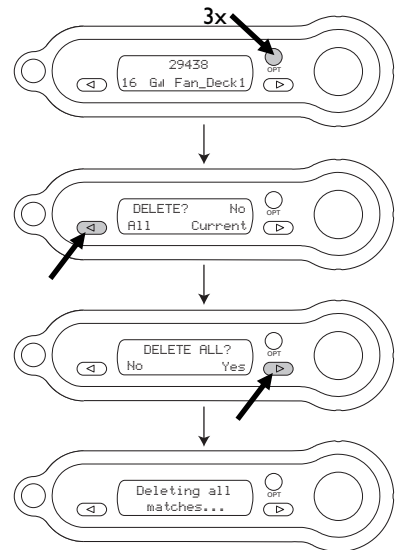
Deleting One Match

1. Use the **RIGHT** or **LEFT** buttons to navigate to the match you wish to delete and then press the **OPT** button three times.
2. You will be asked if you wish to delete all matches or just the current match. Press the **RIGHT** button to delete the current match. The screen will display a "Deleting current match".



Deleting All Matches

1. Press the **OPT** button three times to access the delete screen.
2. You will be asked if you wish to delete all matches or just the current match. Press the **LEFT** button to delete all the matches.
3. A prompt will ask for confirmation (Yes / No). To continue with deleting, press the **RIGHT** (Yes) button; the screen will display "Deleting all matches". To cancel, press the **LEFT** (No) button.

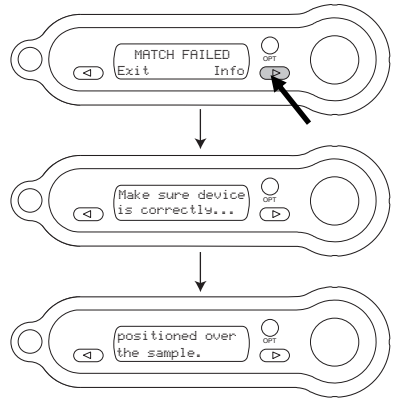


10. ALERTS AND TROUBLESHOOTING

Alerts

The display alerts you to any problems that may occur during use of the instrument. When an alert occurs, you have the option to continue to use the instrument (press the **LEFT** button to Exit the alert message) or get more information on how to correct the problem (press the **RIGHT** button for Info).

The alert messages you may encounter are listed below.



LOW BATTERY: If the battery power is too low to allow accurate color matching, this alert is displayed on the screen. If the batteries are too low to power the display, the instrument automatically turns off. Replace the batteries and press the large round **MATCH** button to turn the instrument on again.

MATCH FAILED: If this message appears, the instrument was not able to match the sample color. Reposition the sample or the instrument and press the large round **MATCH** button again. If you receive repeated "MATCH FAILED" messages:

- Make sure the instrument is flat against the sample.
- Make sure you have a good sample. (See Selecting a Sample, p. 9.)
- Check and clean the target window. (See Cleaning, p. 16.)
- Instrument may need calibrating. (See p. 11.)
- Contact technical support. (See Technical Support, p. 17.)

MEMORY FULL: The instrument can store 20 matches in its memory. If you attempt to take a measurement when the memory is full, you will have to delete one match or all matches before taking another. (See Deleting Matches, p. 14.)

SYSTEM FAILED: If this message appears, contact technical support. (See p. 17.)

CAP MISSING: The protective cap is not attached during power up.

WARNING: This message may be caused by debris in the target window or smudge marks or dust on the calibration plaque. Make sure the calibration plaque is free from smudge marks and dust.

Troubleshooting

Variables that may affect the results given by the instrument include:

- Obstructions to the sensors located within the target window
- Cold weather, which may cause the display to react slowly and matches to be less accurate
- Improper use of the instrument or attempting to make a match from an unsuitable sample:
 - The target ring was not flat against the sample
 - The sample is highly textured
 - The sample is dirty from handling
 - The sample is too small
 - The sample contains fluorescent, metallic, or pearlescent colorants
 - The sample is not a solid color
 - Textiles
 - The sample looks different when viewed at different angles

11. CLEANING

The MatchStik instrument should be stored with the protective cap on when not in use.

The target window and protective cap should be kept clean from dust and dirt for the highest level of accuracy. The color sensors are recessed and therefore protected from dirt during normal usage. However, if the target window does require cleaning, using a damp, lint-free cloth. The calibration plaque at the bottom of the protective cap should also be cleaned with a damp, lint-free cloth.



Do not immerse the instrument in liquid, and do not use anything other than a water-dampened cloth for cleaning.

12. IMPORTANT INFORMATION

The instrument is designed to be a color-matching tool. It is programmed with color specific fan deck data.

The color matches given by the instrument are meant to serve as guidelines only. You should always visually confirm that the color specified by the instrument is an acceptable match to the sample. X-Rite is not liable and assumes no responsibility for inaccurate color identification by the instrument. It is recommended that you refer to your fan deck for final color acceptability.

Technical Support

If you need assistance with the instrument, contact X-Rite technical support via:

telephone: 800-572-4626
fax: 978-952-2797
email: mrsupport@xrite.com

Viewing Product Information

To view the instrument's battery level, serial number, firmware version, and system status, hold in the **LEFT** button and press the **MATCH** button at the same time. Use the **RIGHT** button to move through the information screens. This function is also used to access the calibration screen.

Caution

For your safety, do not look directly into the target window when the instrument is on.

Do not immerse the instrument in liquid.

Cold weather may affect the speed of the display and the accuracy of matches.

Do not expose the instrument to extreme heat; do not leave in the sun.

Do not dispose of your batteries into a fire. Dispose batteries in a designated disposal location for recycling.

Technical Specifications

Measurement time:	2 seconds
Power supply:	4 AAA alkaline batteries (6Vdc)
LED life in normal use:	product life
Weight (without batteries):	5.69 oz. (162.5 g)
Width:	1.94" in (49.3 mm)
Length:	6.75" in (171.5 mm)
Height:	1.09" in (27.7 mm)
Controls:	4 buttons
Display:	2 lines, 16 characters LCD
Operating Temp:	50° to 104°F (10° to 40°C)
Storage Temp:	-4° to 122°F (-20° to 50°C)
Humidity Range:	20 - 85% RH (non condensing)
Usage:	Standard compliant for indoor use only
Altitude:	2000m
Pollution Degree:	2
Transient Overvoltage:	Category II

13. FAQs

1. *How many color matches does the instrument store?*

Twenty (20) color matches.

2. *What are the ideal samples to match?*

The samples should be smooth, dry, solid in color and opaque.

3. *How does the instrument turn ON and OFF?*

Press and hold the large round **MATCH** button to turn the instrument ON. The instrument automatically turns OFF after three minutes. You can also force the instrument to power off by using the **OPT** button.

4. *How do I clean the instrument?*

Use a damp, lint free cloth to clean the sensor area (always keep the protective cap on the instrument when not in use).

5. *What should I do if the instrument doesn't power-up?*

If the batteries are too low the instrument will not power-up. At this point, the batteries may need to be replaced.

6. *Who do I contact for technical support?*

Phone 800-572-4626

Fax 978-952-2797

Email mrsupport@xrite.com

7. *What size does the sample need to be in order to get a good match?*

The sample should be large enough to fill in the entire target ring, approximately 1/2" (1.27 cm) in diameter.

8. *What do I do when the instrument says "Memory Full" and the instrument will not make another match?*

One or all of the matches need to be deleted out of the memory in order to make another match.

9. *What is the warranty period and repair program for this instrument?*

The warranty period is 12 months. The instrument is not eligible for repair.



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