



# LACELOK®

The Smarter Option for Secondary Wire Harness Support



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# SUPERIOR SECONDARY WIRE HARNESS SUPPORT

LaceLok® Cable Lacing Fasteners were designed to replace cable ties and hand-tied lacing tape for secondary support of wire harnesses. The LaceLok system is ergonomic and provides consistent support with unrivaled strength and superior performance.

Made of aerospace-grade materials, LaceLok features a small, rounded fastener and meta-aramid fiber lace. This combination of materials provides superior resistance to fuel, chemicals, abrasion, and extreme operating temperatures.

LaceLok offers multiple installation configurations making it suitable for a variety of applications. Single, double, or triple wraps allow for increased tensile strength and accommodate pressure sensitive components such as coaxial and fiber optic cables.

LaceLok shown alongside traditional methods of secondary wire harness support



**LEARN MORE ABOUT LACELOK**





# INDUSTRY CHANGING DESIGN

## SAFER & MORE ERGONOMIC

- Reduces repetitive motion and abrasion injuries
- Reduces operator fatigue

## MORE CONSISTENT

- Delivers consistent loop force that is controlled by the fastener, not the user
- Terminates consistently at 20 lbs (+/- 2 lbs) of applied tension

## SUPERIOR PERFORMANCE

- Rated for operation in extreme temperatures -65°C to 260°C
- Hydraulic fluid, lubricating oil, and fuel resistant
- Made of abrasion resistant meta-aramid fiber lace
- 40% lighter than large cable ties

## FASTER

- Installs up to 3x faster than most hand-tied lace



# STANDARDS AND CLASSIFICATIONS



## SAE INTERNATIONAL

LaceLok (CLF) is approved for use as a secondary wiring support device for aerospace vehicles under **AS50881H**. This SAE specification is available online at <https://www.sae.org/>.



## U.S. MILITARY

The U.S. military maintains and distributes the procurement and detail specifications that control the design, packaging, and performance requirements of LaceLok. U.S. military specifications for LaceLok include the following:

### DESIGN & PERFORMANCE SPECIFICATIONS

- **MIL-DTL-32554** Straps, Tie-Down, Adjustable, Non-Metallic, Cable Bundling, General Specification
- **MIL-DTL-32555** Tool, Installation, for Adjustable Tie-Down Straps, General Specification

### APPLICATION & APPROVAL SPECIFICATIONS

- **NAVAIR 01-1A-505-1** Technical Manual - Installation Practices for Aircraft Electric and Electronic Wiring
- **TO 1-1A-14** Technical Manual (Air Force)
- **TM 1-1500-323-24-1** Technical Manual (Army)
- **MIL-HDBK-522** Guidelines for Inspection of Aircraft Electrical Wiring Interconnect Systems





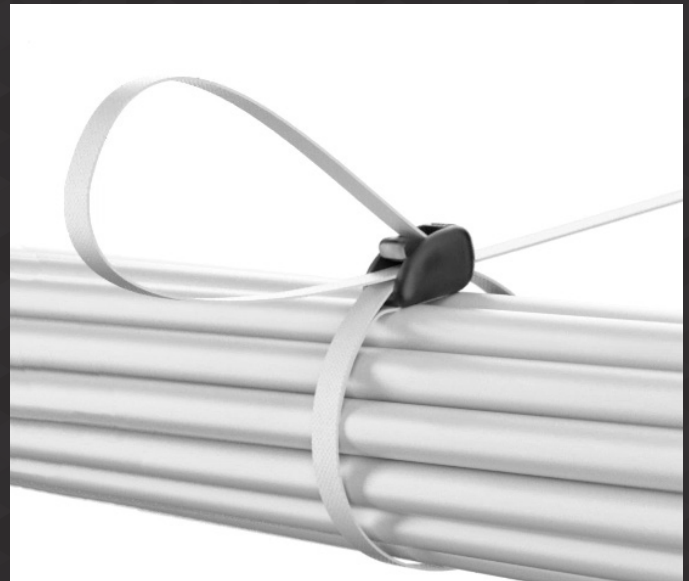
# INSTALLING LACELOK IS SIMPLE

**1****WRAP**

Wrap the wire harness 1 to 3 times and feed the end of the lace through the fastener. Cinch tightly.

**2****LOOP**

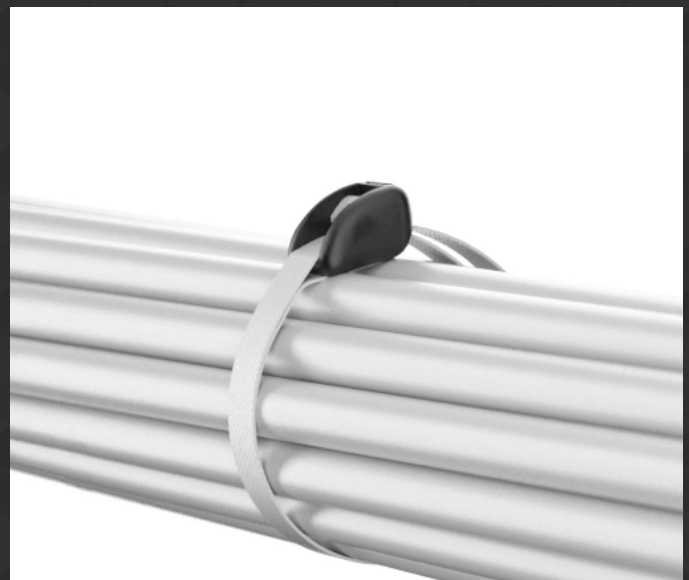
Loop the end of the lace over the locking pin and back through the opening. Cinch tightly.

**3****NEST**

Side-load the lace into the capstan and ensure that the fastener is nested in the tool.

**4****TERMINATE**

Squeeze tool trigger 2 to 3 times to seamlessly tighten, lock, and cut excess lace.





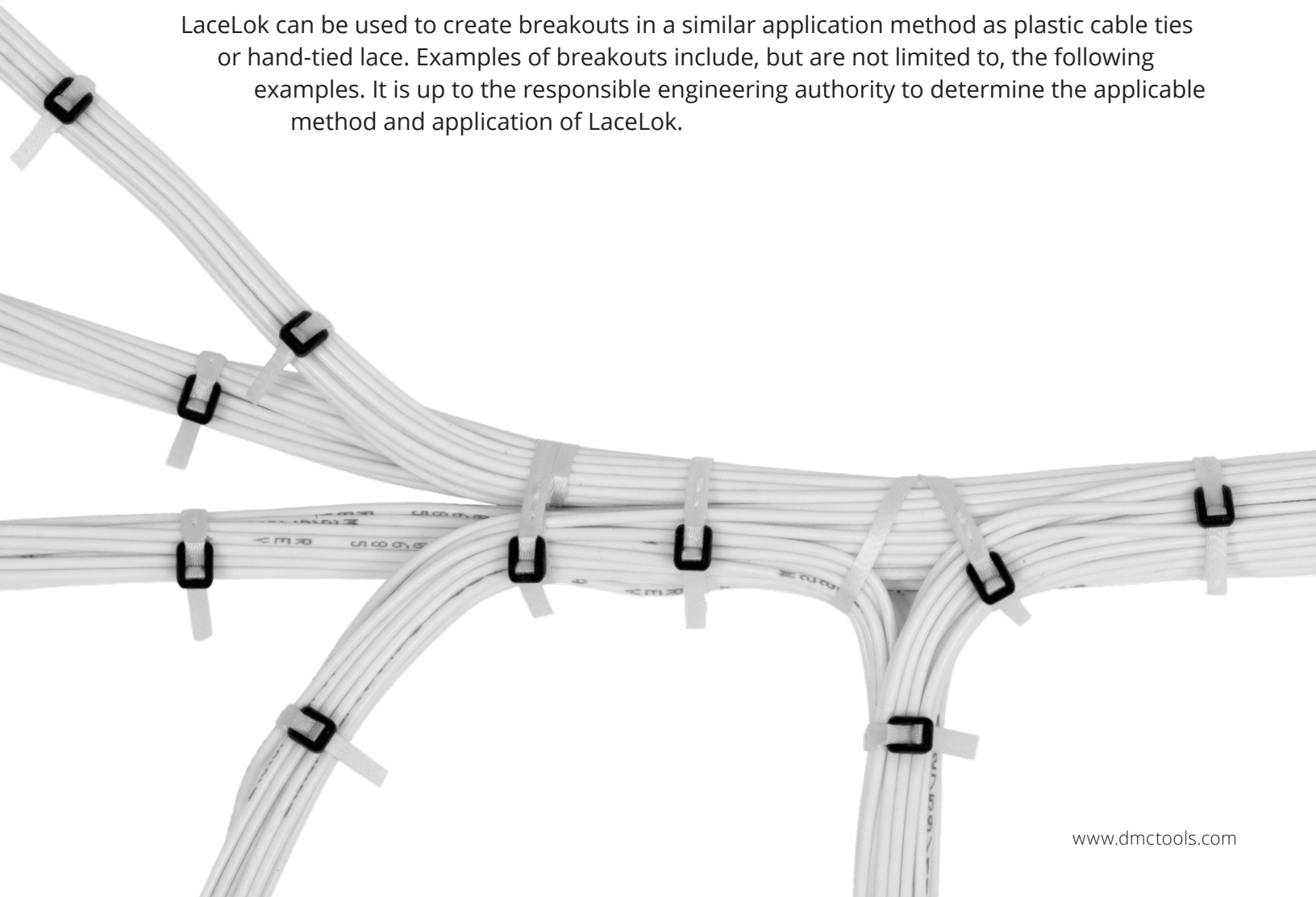
# INSTALLATION PRACTICES

LaceLok is exceptionally strong with a single wrap. Additional strength can be achieved by simply applying a second or third wrap around the wire harness prior to activation. Multiple wrap installations should be used where increased tensile strength or additional resistance to radial motion is needed. Double and triple wrap configurations are ideal for pressure sensitive components such as coaxial and fiber optic cables.

Number of Wraps	Application	Minimum Tensile Strength
Single	1/4" to 1" (.6 cm to 2.5 cm) diameter cable bundles	55 lbs. (240 N)
Double	<1/4" and 1" to 3" (< .6 cm and 2.5 cm to 7.5 cm) diameter cable bundles	110 lbs. (490 N)
Triple	>3" (> 7.5 cm) diameter cable bundles or Exposure to JP-8 jet fuel	165 lbs. (730 N)

## BREAKOUTS

LaceLok can be used to create breakouts in a similar application method as plastic cable ties or hand-tied lace. Examples of breakouts include, but are not limited to, the following examples. It is up to the responsible engineering authority to determine the applicable method and application of LaceLok.



# LACELOK MATERIALS AND PACKAGING

## MATERIALS

LaceLok is comprised of three components: the lacing tape, the fastener, and the thread. All components are made of materials that are resistant to chemicals and can withstand an extreme temperature range.

The lacing tape used in LaceLok is constructed of the same material as typical hand-tied lace, meta-aramid fiber A-A-52084 finish C. This material offers excellent heat and flame resistance, outstanding strength, and is non-conductive. Finish C lace features a synthetic rubber elastomer coating which improves its ability to maintain tension when locked and terminated in the fastener.

The fastener is made of engineered thermoplastic PEEK (polyetheretherketone) material, ideal for aerospace applications. It offers a very high strength to weight ratio while maintaining resistance to heat, flame, and chemicals including JP-8 jet fuel, hydraulic fluids, lubricating oil, and isopropyl alcohol.

The thread is manufactured to MIL-C-572 Type PAA Form Y. It is intended to secure the fastener onto the lace until the fastener is terminated on a bundle. The thread plays no role in the security of LaceLok once the fastener is terminated.

## PACKAGING

LaceLok is sold in packages of 100 and is available in multiple colors and lengths.



### DMC PART NUMBERING SYSTEM

LF2-XXCCC

#### LENGTH

- 06 = 6" (15 cm)
- 10 = 10" (25 cm)
- 18 = 18" (45 cm)
- 24 = 24" (61 cm)

#### COLOR

- NA1 = Natural (White)
- NA2 = Natural w/Dark Tracer
- BLK = Black
- BLU = Blue
- BRN = Brown
- GRY = Gray
- GRE = Green
- ORN = Orange
- PNK = Pink
- RED = Red
- VIO = Violet

### MILITARY PART NUMBERING SYSTEM

M32554-XX-1-XXX

#### LENGTH

- 06 = 6" (15 cm)
- 10 = 10" (25 cm)
- 18 = 18" (45 cm)
- 24 = 24" (61 cm)

#### COLOR

- NA1 = Natural (White)
- NA2 = Natural w/Dark Tracer
- BLK = Black
- BLU = Blue
- BRN = Brown
- GRY = Gray
- GRE = Green
- ORN = Orange
- PNK = Pink
- RED = Red
- VIO = Violet

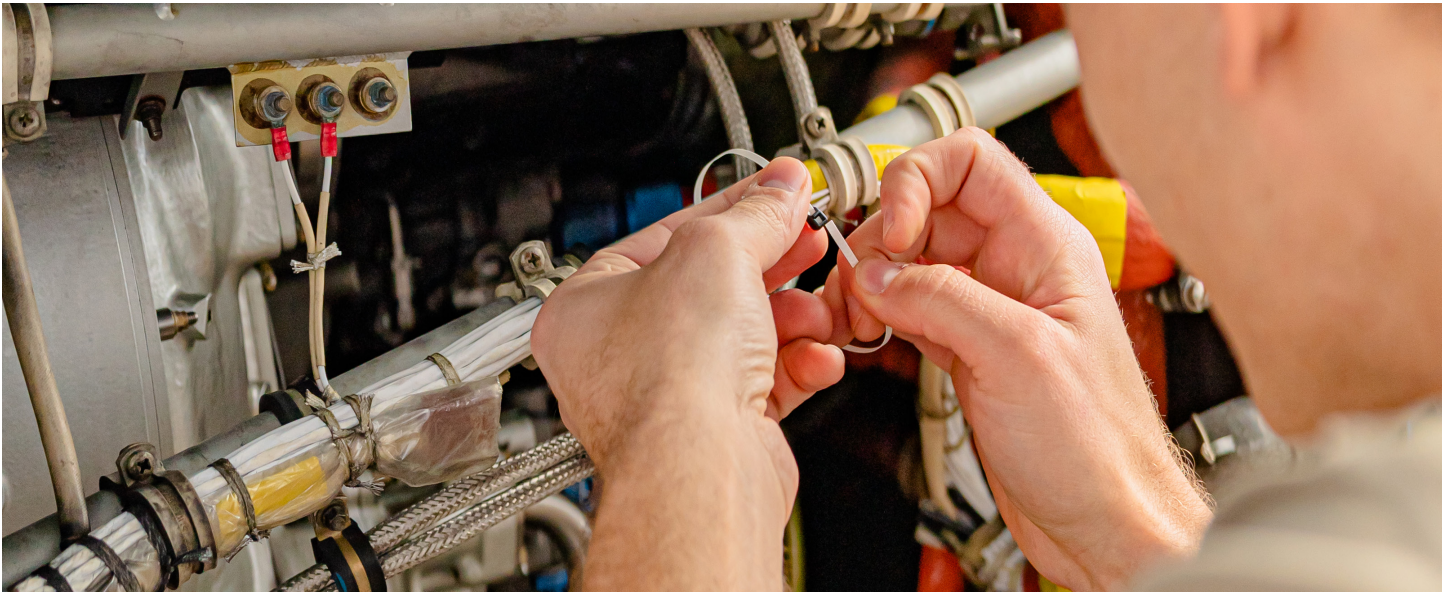
# LACELOK ORDERING INFORMATION

LaceLok is sold in packages of 100.



COLOR	LENGTH	DMC PART #	MILITARY PART #	NSN
<b>NA1 (White)</b>	6"	LF2-06NA1	M32554-06-1-NA1	NSN Pending
	10"	LF2-10NA1	M32554-10-1-NA1	NSN Pending
	18"	LF2-18NA1	M32554-18-1-NA1	NSN Pending
	24"	LF2-24NA1	M32554-24-1-NA1	NSN Pending
<b>NA2 (White w/ Dark Tracer)</b>	6"	LF2-06NA2	M32554-06-1-NA2	NSN Pending
	10"	LF2-10NA2	M32554-10-1-NA2	NSN Pending
	18"	LF2-18NA2	M32554-18-1-NA2	NSN Pending
	24"	LF2-24NA2	M32554-24-1-NA2	NSN Pending
<b>Black</b>	6"	LF2-06BLK	M32554-06-1-BLK	NSN Pending
	10"	LF2-10BLK	M32554-10-1-BLK	NSN Pending
	18"	LF2-18BLK	M32554-18-1-BLK	NSN Pending
	24"	LF2-24BLK	M32554-24-1-BLK	NSN Pending
<b>Blue</b>	6"	LF2-06BLU	M32554-06-1-BLU	NSN Pending
	10"	LF2-10BLU	M32554-10-1-BLU	NSN Pending
	18"	LF2-18BLU	M32554-18-1-BLU	NSN Pending
	24"	LF2-24BLU	M32554-24-1-BLU	NSN Pending
<b>Brown</b>	6"	LF2-06BRN	M32554-06-1-BRN	NSN Pending
	10"	LF2-10BRN	M32554-10-1-BRN	NSN Pending
	18"	LF2-18BRN	M32554-18-1-BRN	NSN Pending
	24"	LF2-24BRN	M32554-24-1-BRN	NSN Pending





COLOR	LENGTH	DMC PART #	MILITARY PART #	NSN
<b>Gray</b>	6"	LF2-06GRY	M32554-06-1-GRY	NSN Pending
	10"	LF2-10GRY	M32554-10-1-GRY	NSN Pending
	18"	LF2-18GRY	M32554-18-1-GRY	NSN Pending
	24"	LF2-24GRY	M32554-24-1-GRY	NSN Pending
<b>Green</b>	6"	LF2-06GRE	M32554-06-1-GRE	NSN Pending
	10"	LF2-10GRE	M32554-10-1-GRE	NSN Pending
	18"	LF2-18GRE	M32554-18-1-GRE	NSN Pending
	24"	LF2-24GRE	M32554-24-1-GRE	NSN Pending
<b>Orange</b>	6"	LF2-06ORN	M32554-06-1-ORN	NSN Pending
	10"	LF2-10ORN	M32554-10-1-ORN	NSN Pending
	18"	LF2-18ORN	M32554-18-1-ORN	NSN Pending
	24"	LF2-24ORN	M32554-24-1-ORN	NSN Pending
<b>Pink</b>	6"	LF2-06PNK	M32554-06-1-PNK	NSN Pending
	10"	LF2-10PNK	M32554-10-1-PNK	NSN Pending
	18"	LF2-18PNK	M32554-18-1-PNK	NSN Pending
	24"	LF2-24PNK	M32554-24-1-PNK	NSN Pending
<b>Red</b>	6"	LF2-06RED	M32554-06-1-RED	NSN Pending
	10"	LF2-10RED	M32554-10-1-RED	NSN Pending
	18"	LF2-18RED	M32554-18-1-RED	NSN Pending
	24"	LF2-24RED	M32554-24-1-RED	NSN Pending
<b>Violet</b>	6"	LF2-06VIO	M32554-06-1-VIO	NSN Pending
	10"	LF2-10VIO	M32554-10-1-VIO	NSN Pending
	18"	LF2-18VIO	M32554-18-1-VIO	NSN Pending
	24"	LF2-24VIO	M32554-24-1-VIO	NSN Pending

# TOOL AND TOOL KITS

**ERGONOMIC DESIGN**

**CONSISTENT TENSION**

**LIGHTWEIGHT & DURABLE**

## DLT-1100



The LaceLok installation tool features a steel cutting blade tested to successfully terminate thousands of cycles. The tool delivers consistent tension causing the lace to tighten and the fastener to lock at 20 lbs (+/- 2 lbs) of applied tension. The lightweight and durable tool is easy to operate and small enough to get into confined spaces.

- ✓ No Calibration Required
- ✓ Minimal Maintenance Needed
- ✓ Repeatable Results



**DLT-1100**  
(M32555/01-01)  
Installation tool only

## REPLACEMENT PARTS AND ACCESSORIES



**DLT-1100-SA5**  
(M32555/01-02)  
Cutting Blade



**MG-1300**  
Guarded Cutter



**DLT-1100-33**  
Cutting Blade Cover

**1-1025** (Not Pictured)  
Cutting Blade Cover Screw



# DMC2300

**DMC2300-10NA1 Pictured**

LaceLok kits include an installation tool, guarded cutters, a replacement blade, and 100 pieces of LaceLok.

- Designated storage space reduces FOD risk
- Rugged case and foam inserts protect tooling

Additional kits are available with various colors of LaceLok including blue, brown, gray, green, orange, pink, red, and violet. Contact DMC for part numbers.

COLOR	LENGTH	TOOL KIT PART #	NSN
<b>NA1 (White)</b>	6"	DMC2300-06NA1	NSN PENDING
	10"	DMC2300-10NA1	NSN PENDING
	18"	DMC2300-18NA1	NSN PENDING
	24"	DMC2300-24NA1	NSN PENDING
<b>NA2 (White w/ Dark Tracer)</b>	6"	DMC2300-06NA2	NSN PENDING
	10"	DMC2300-10NA2	NSN PENDING
	18"	DMC2300-18NA2	NSN PENDING
	24"	DMC2300-24NA2	NSN PENDING
<b>Black</b>	6"	DMC2300-06BLK	NSN PENDING
	10"	DMC2300-10BLK	NSN PENDING
	18"	DMC2300-18BLK	NSN PENDING
	24"	DMC2300-24BLK	NSN PENDING



# BEST PRACTICES

LaceLok is used to support wire bundles, not gather the bundle. Before installing LaceLok, it may be helpful to bundle the wire with a clamp or other bundling device. If a clamp is not available, operators may hold the bundle together with their non-dominant hand (Fig 1).

To ensure the bundle is secured properly, it is important that the lacing tape is not twisted during installation.

Remember the lace is not fed through the nose of the tool, but rather side-loaded through the capstan.

To achieve the best termination, remember to align the tool to the fastener so that it is nested in the nose of the tool (Fig 2). Do not position the tool in front, to the side, or perpendicular to the fastener. Failure to correctly align the tool can result in a faulty installation.

When performing a multiple wrap installation, be sure to wrap the lace around the bundle multiple times, but only through the fastener once on the final pass around the bundle. Do not thread the lace through the fastener multiple times (Fig. 3).

A lockstitch method can be used for larger bundles, bundles of multi-conductor cables, or bundles where additional resistance to lateral movement is needed. A lockstitch is completed by looping the lace around one component and then completing the wraps and termination as normal (Fig. 4).

Fig. 1



Fig. 2



Fig. 3



**INCORRECT**

Fig. 4



Visit our website for more application/installation information at: <https://qrco.de/lacelok> or scan the QR code.





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