DURO DYNE®

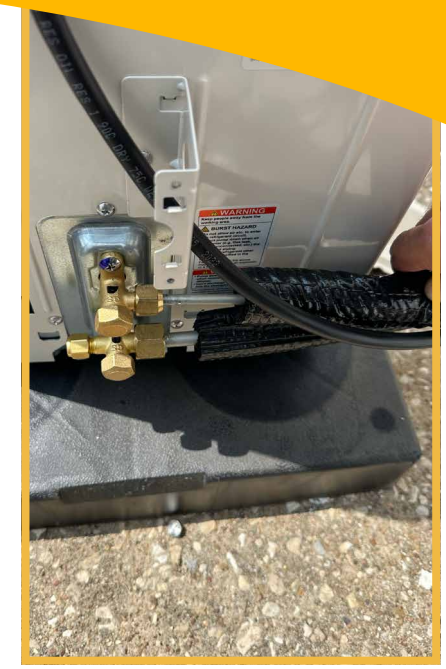
# Duro-Line™

## STEEL LINE SETS

## THE BETTER LINE SET

PROUDLY MADE IN THE USA

# WHAT IS DURO-LINE™?

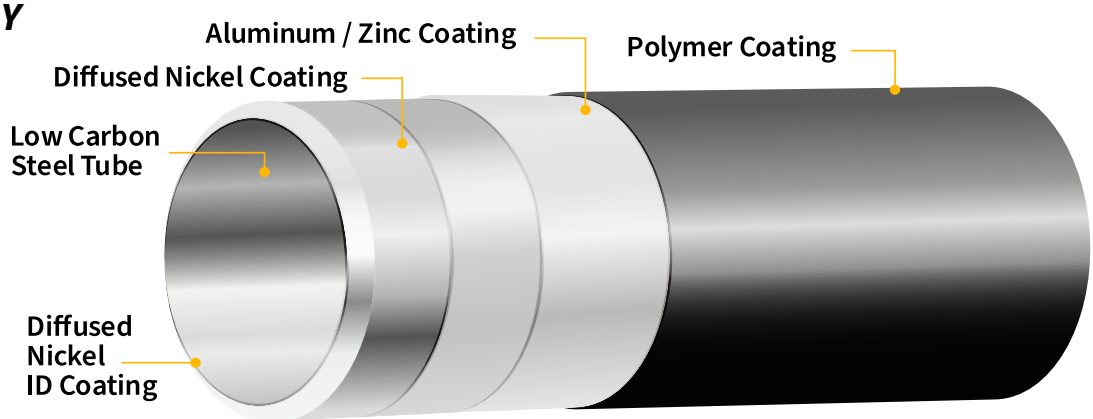


Duro-Line was designed and developed to MIMIC copper, creating the perfect replacement for copper line sets. Duro-Line's ***patented technology*** creates the perfect balance of strength and flexibility, coupled with superior roundness that holds its shape, even when cut. This Low Carbon Steel Line Set has built-in corrosion and chemical resistance that is unmatched in the industry. This time-tested technology is why Duro-Line is the better line set.

- Duro-Line's coated low-carbon steel tubing has proven use in the Refrigeration and Automotive industry for over 40 years.
- Proudly Made in USA
- Outstanding Flexibility – Makes routing and installation faster and easier.
- Superior Roundness and Consistency – Ensures smooth refrigerant flow and secure connections.
- Practical – Use all your original tools, no need for special tools.
- Sustainable Strength – Duro-Line is more durable and less susceptible to puncture or penetration.

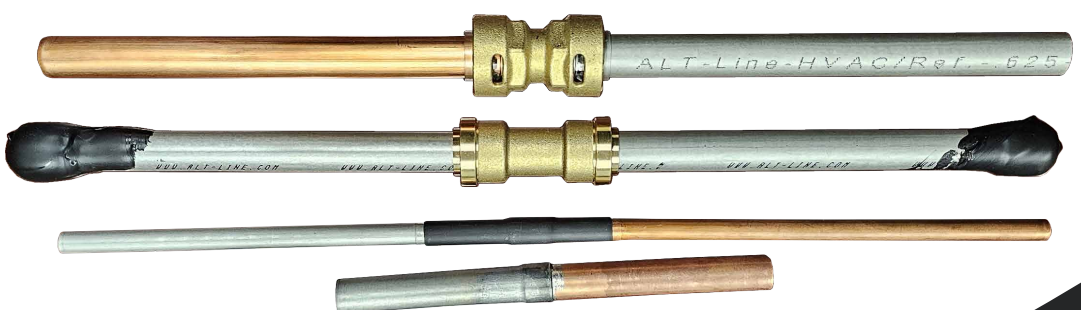
## *DURO-LINE™ TECHNOLOGY*

- Diffused nickel inner layer
- Diffused nickel outer layer
- Aluminum/zinc layer coating
- Aluminum enriched epoxy paint layer
- Low carbon steel tube




## *APPLICATIONS*

- Unitary Line Sets
- VRF Systems
- Ductless Mini-Splits
- Multi-Split Systems
- Commercial Installations
- High Corrosive Areas (Coastal Communities)

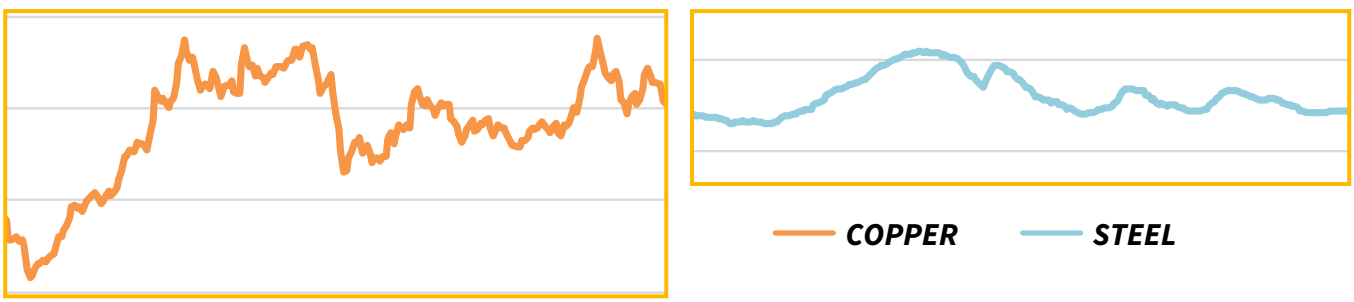


*PLEASE SEE PAGE 6 FOR SKUS AND AVAILABLE SIZES.*

## FEATURES & BENEFITS

- Trusted Duro Dyne® quality
- 20-year warranty on the tubing; 5-year warranty on the insulation
- Built-In Corrosion Resistance – Engineered to withstand the elements and extend service life. Tested for 40 years.
- UV Insulated and Uninsulated in a variety of lengths
- Carries all known HVAC & Refrigeration refrigerants
- Handles extreme temps: -55°F to 500°F (A2L and A3 approved)
- Significantly less volatile commodity than copper
- Outperforms copper in corrosion resistance and pressure capacity
- Lighter weight than copper makes for quick and easy installation
- Similar mechanical properties to copper, but does not stretch like copper
- ~40% higher operating pressure than copper, with burst strength over 7,000 psi and will support continuous operating pressure at 5,500 psi
- UL compliant to operating design pressures of 700psi ***(see specs below)***

## PRICE STABILITY




## KEY SPECIFICATIONS

- **Tests to meet ASTM B280 and ASTM B1003:** Note that ASTM B280 Specifies Copper Tubing. Duro-Line tests to the other specifications in ASTM B280, such as mechanical, cleanliness, pressure ratings, Eddy Current testing, etc.
- **Approved Refrigerants:** R32, R134A, R143A, R290, R404A, R407, R410A, R417A, R421A, R422, R424A, R427A, R434A R437A, R433A, R445A, R446A, R447A, R448A, R449, R450A, R451, R452, R453A, R454, R455A, R456A, R507, R513, R600, R600a, R718, R1234yf, R1234ze, Ethylene Glycol
- **Standard Sizes:** 1/4", 5/16", 3/8", 1/2", 5/8", 3/4" and 7/8" coming in a variety of standard lengths, insulated and uninsulated, of 15', 25', 35', 50' and 164' coils in all diameters.

## TUBE TESTING METHODS

- ASTM E8 – Tensile Test
- ASTM E18 – RW Hardness Test
- ASTM B153 – Expansion Test
- ASTM B1003 – Cleanness Test
- ASTM B1003 – Pressure Test
- ASTM B968 – Flattening Test
- ASTM B88 – Hydrostatic Pressure Test
- ASTM B117 – Salt Spray Fog Test
- UL 207 - Line Set Refrigerant Tubing

## TUBE SIZES AND PRESSURES

| PRODUCT | NOMINAL TUBE OD (INCH) | NOMINAL WALL THICKNESS (INCH) | WEIGHT/ FOOT (LBS) | DESIGN PRESSURE (PSIG) | CONTINUOUS OPERATING TEMP |
|---|---|---|---|---|---|
| TUBE LINE SIZES | 1/4 | 0.026 | 0.06 | 1,100 | 250°F |
| | 5/16 | 0.026 | 0.08 | 1,100 | 250°F |
| | 3/8 | 0.026 | 0.10 | 1,100 | 250°F |
| | 1/2 | 0.026 | 0.13 | 700 | 250°F |
| | 5/8 | 0.026 | 0.17 | 700 | 250°F |
| | 3/4 | 0.026 | 0.20 | 700 | 250°F |
| | 7/8 | 0.026 | 0.40 | 700 | 250°F |

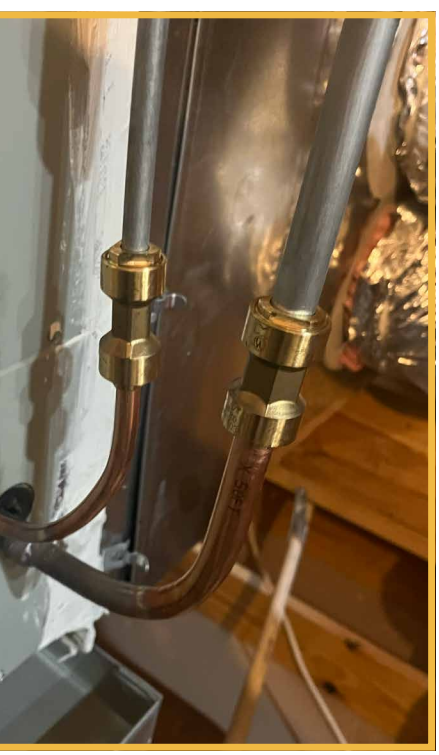
## *INSTALLATION: NO SPECIAL TOOLS OR FITTINGS NEEDED*

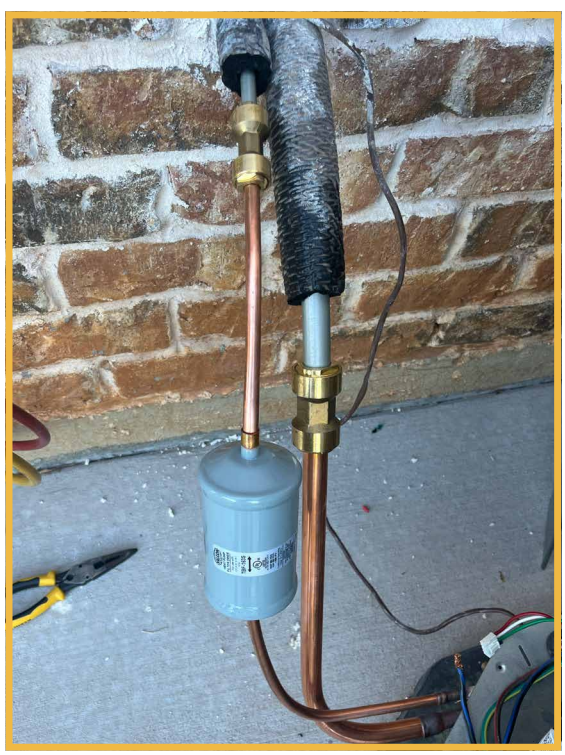
- For applications requiring brazing, we recommend swaging the end of the Duro-Line tube for proper joint connection and utilizing brazing rods with a silver content above 45% for strong brazing. ***For best results, we recommend Solderweld® Sil Sol-56.***
- Duro-Line HVAC tubing does not require any special cutting, bending or chamfering tools. All standard HVAC compression and press fittings are suitable (NIBCO®, SB1 Series, ZOOMLOCK® and RLS®). Duro-Line tubing adapts to all other typical copper installation requirements.
- Duro-Line recommends that when using a tube bender, the tube bender outer pads should be lubricated on the surface of the pads.
- The polymer corrosion-resistant coating on the Duro-Line tube is dry and can cause the bending pads to grip the tube and not slide. Prior to installation, lubricate pads with a siliconized lubricant. They will slide easily and the tube will bend perfectly.

LIMITED 20 YEAR WARRANTY

***Duro-Line HVAC Tubing warrants this product to be free of any defect in workmanship and materials. Duro-Line HVAC Tubing carries a 20-year limited warranty when installed by a certified licensed HVAC/R contractor.***

***This warranty shall not apply to altered, repaired, or misuse through negligence or otherwise. Nor does the warranty cover replacements or repairs necessitated by loss or damage resulting from any cause beyond the control of Duro-Line, including but not limited to, acts of God, acts of government, floods and fires.***





## *INSULATION SPECIFICATION COMPLIANCE*

- ASTM C 534
- 2012 IECC: Section R403.3.1
- 2012 IECC: Section C403.2.8
- 2015 IECC: Section R403.4.1 2015 IECC: Section C403.2.10
- Plenum Rated according to the International Mechanical Code (IMC)
- California Building Energy Efficiency Standards, Title 24, Section 120.3 b (1 and 2) and c

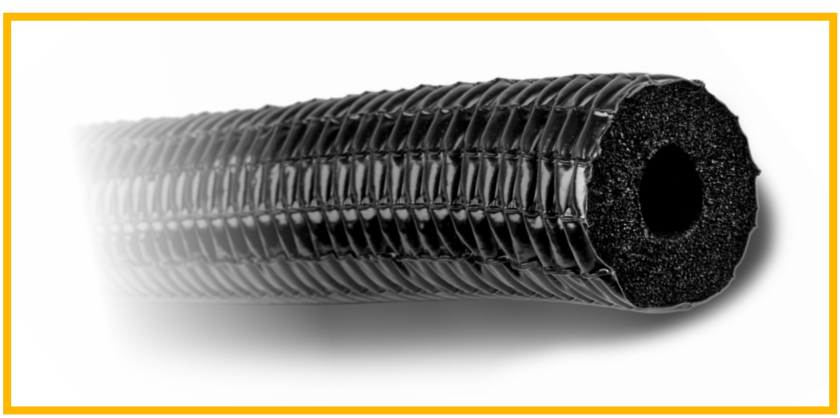
## *INSULATION PROPERTIES*

| PROPERTY | VALUE | TEST METHOD |
|---|---|---|
| **Thermal Conductivity:** Btu • in/h • ft2 • °F (W/mK) | 1/4 | - |
| 75°F Mean Temperature (24°C)<br>100°F Mean Temperature (38°C) | 0.25 (0.036)<br>0.257 (0.037) | ASTM C 177 or C 518 |
| **Water Vapor Permeability:**<br>Perm-in. [Kg/(s • m • Pa)] | 0.03 (0.435 x 10-13) | ASTM E 96, Procedure A Meets Class 1 rating |
| **Flame Spread and Smoke Developed Index through 1" wall thickness** | 25/50 rated | ASTM E 84, UL 723, CAN ULC S102.2 ② |
| **Water Absorption, % by Volume** | 0.2 % | ASTM C 1763 |
| **Maximum Service Temperature** | 220°F (82°C) | ASTM C 534 |
| **Minimum Service Temperature** ① | -297°F (-183°C) | ASTM C 534 |
| **Ozone Resistance:** | Good | ASTM C 1149 ③ |
| **UV Weather Resistance** | Excellent: no deterioration | ASTM G154 tested to 5000 hours |
| **Hot Surface Performance at 250°F (121°C)** | Pass | ASTM C411 NFPA 90A and NFPA 90B |

① CAN ULC S102.2 for up to 3/4" wall thickness

② At -40 °F (-73 °C), the insulation becomes hard and brittle. This hardening characteristic does not affect thermal efficiency or water vapor permeability.

③ Meets the UV resistance requirements of ASTM C1775 which describes requirements for insulation protective jacketing used outdoors.



**ArmaFlex® Shield** is a pre-jacketed flexible insulation with a tough moisture- and UV-resistant coating that stands up to extreme elements in outdoor applications.

- Protection against thermal losses, condensation, and moisture ingress.
- Meets the requirements of the International Energy Conservation Code (IECC) for protection of insulation installed outdoors.
- Durable outer jacket resists damage due to sunlight, installation, outdoor hazards and physical abuse.
- All closed-cell insulation material based on elastomeric foam
- No field-applied protective coating or additional jacketing required
- 5-Year Warranty
- 1/2" thick insulation

| R-value | 1/4" (6 mm) | 3/8" (10 mm) | 1/2" (13 mm) | 5/8" (16 mm) | 3/4" (19 mm) | 7/8" (22 mm) | 1-1/8" (29 mm) |
|---|---|---|---|---|---|---|---|
| **1/2" (13 mm) Wall** | 3.8 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 |

# SKUs

| PART NO. | DESCRIPTION | LIQUID LINE | SUCTION LINE | INSULATION | | LENGTH |
|---|---|---|---|---|---|---|
| SLS1451625 | 1/4 LL, 5/16 SL X 25' W/Insulation | 1/4" | 5/16" | 1/2" | Both Lines | 25' |
| SLS1451650 | 1/4 LL, 5/16 SL X 50' W/Insulation | 1/4" | 5/16" | 1/2" | Both Lines | 50' |
| SLS143815 | 1/4 LL, 3/8 SL X 15' W/Insulation | 1/4" | 3/8" | 1/2" | Both Lines | 15' |
| SLS143825 | 1/4 LL, 3/8 SL X 25' W/Insulation | 1/4" | 3/8" | 1/2" | Both Lines | 25' |
| SLS143850 | 1/4 LL, 3/8 SL X 50' W/Insulation | 1/4" | 3/8" | 1/2" | Both Lines | 50' |
| SLS141215 | 1/4 LL, 1/2 SL X 15' W/Insulation | 1/4" | 1/2" | 1/2" | Both Lines | 15' |
| SLS141225 | 1/4 LL, 1/2 SL X 25' W/Insulation | 1/4" | 1/2" | 1/2" | Both Lines | 25' |
| SLS141250 | 1/4 LL, 1/2 SL X 50' W/Insulation | 1/4" | 1/2" | 1/2" | Both Lines | 50' |
| SLS5165830 | 5/16 LL, 5/8 SL X 30' W/Insulation | 5/16" | 5/8"' | 1/2" | Suction Line | 30' |
| SLS5165850 | 5/16 LL, 5/8 SL X 50' W/Insulation | 5/16" | 5/8"' | 1/2" | Suction Line | 50' |
| SLS5163725 | 5/16 LL, 3/4 SL X 25' W/Insulation | 5/16" | 3/4" | 1/2" | Suction Line | 25' |
| SLS5163430 | 5/16 LL, 3/4 SL X 30' W/Insulation | 5/16" | 3/4" | 1/2" | Suction Line | 30' |
| SLS5163450 | 5/16 LL, 3/4 SL X 50' W/Insulation | 5/16" | 3/4" | 1/2" | Suction Line | 50' |
| SLS5167825 | 5/16 LL, 7/8 SL X 25' W/Insulation | 5/16" | 7/8" | 1/2" | Suction Line | 25' |
| SLS5167830 | 5/16 LL, 7/8 SL X 30' W/Insulation | 5/16" | 7/8" | 1/2" | Suction Line | 30' |
| SLS5167850 | 5/16 LL, 7/8 SL X 50' W/Insulation | 5/16" | 7/8" | 1/2" | Suction Line | 50' |
| SLS385825 | 3/8 LL, 5/8 SL X 25' W/Insulation | 3/8" | 5/8" | 1/2" | Suction Line | 25' |
| SLS385835 | 3/8 LL, 5/8 SL X 35' W/Insulation | 3/8" | 5/8" | 1/2" | Suction Line | 35' |
| SLS385850 | 3/8 LL, 5/8 SL X 50' W/Insulation | 3/8" | 5/8" | 1/2" | Suction Line | 50' |
| SLS383425 | 3/8 LL, 3/4 SL X 25' W/Insulation | 3/8" | 3/4" | 1/2" | Suction Line | 25' |
| SLS383435 | 3/8 LL, 3/4 SL X 35' W/Insulation | 3/8" | 3/4" | 1/2" | Suction Line | 35' |
| SLS383450 | 3/8 LL, 3/4 SL X 50' W/Insulation | 3/8" | 3/4" | 1/2" | Suction Line | 50' |
| SLS387825 | 3/8 LL, 7/8 SL X 25' W/Insulation | 3/8" | 7/8" | 1/2" | Suction Line | 25' |
| SLS387835 | 3/8 LL, 7/8 SL X 35' W/Insulation | 3/8" | 7/8" | 1/2" | Suction Line | 35' |
| SLS387850 | 3/8 LL, 7/8 SL X 50' W/Insulation | 3/8" | 7/8" | 1/2" | Suction Line | 50' |
| SLS1450U | 1/4 Uninsulated Line Set 50' | 1/4" | | NONE | | 50' |
| SLS51650U | 5/16 Uninsulated Line Set 50' | 5/16" | | NONE | | 50' |
| SLS3850U | 3/8 Uninsulated Line Set 50' | 3/8" | | NONE | | 50' |
| SLS1250U | 1/2 Uninsulated Line Set 50' | 1/2" | | NONE | | 50' |
| SLS5850U | 5/8 Uninsulated Line Set 50' | 5/8" | | NONE | | 50' |
| SLS3450U | 3/4 Uninsulated Line Set 50' | 3/4" | | NONE | | 50' |
| SLS7850U | 7/8 Uninsulated Line Set 50' | 7/8" | | NONE | | 50' |

***Other combinations and sizes available by request, including single lines and uninsulated straights and coils.***

# FAQ's

**What is line set protection, and what coating does Duro-Line™ have?**
Line set protection is a covering that protects the tubing from physical damage, harsh weather elements, and wear and tear. Line set protection helps prolong the lifespan of the line set and ensures efficient operation. Duro-Line utilizes a scientifically enhanced Aluminum/Zinc-based coating for superior resistance against environment induced corrosion. The addition of a specially formulated Nickel Coating on inner and outer tube surfaces greatly enhances protection in high humidity environments.

**Can you replace old line sets with Duro-Line™ Steel Line Sets?**
Yes, especially if old line set is damaged or losing too much energy it's best to replace with Duro-Line to ensure that the HVAC system operates efficiently.

**Is a line set necessary when replacing an air conditioner?**
Yes, a line set is necessary when replacing an air conditioner. This is because the line set connects the indoor and outdoor units, and it is difficult to connect a new air conditioner to an older line set. Using a new line set ensures that your HVAC system operates efficiently and effectively.

**What size Duro-Line™ do I need for a mini-split AC unit?**
The size of the Duro-Line line set you need for mini-split AC unit depends on the BTU capacity of the AC unit and the distance between the indoor and outdoor units. Typically, a 1-ton mini-split AC unit requires a ¼" inch line set, while a 2-ton AC unit requires a 3/8" inch line set.

**Does Duro-Line use standard fittings?**
Yes, all standard fittings including SB1, RLS®, ZoomLock®, Airsept Smart Splice, SmartLock® and NIBCO® work with Duro-Line.
We recommend SB1 Push-to-Connect Refrigerant Fittings from Duro Dyne®.

**Can Duro-Line™ be cut with aftermarket tubing cutters?**
Yes.

**Can you use a tube bender on Duro-Line™?**
Yes, Duro-Line does not require any special cutting, bending or chamfering tools. We do, however, recommend that when using a tube bender, the outer pads be lubricated on the surface of outer pads to ensure they slide smooth and bend perfectly.

**Does Duro-Line™ kink easily?**
No. While Duro-Line is stiffer than standard copper tubing, kinking is not a concern if a tube bender is used properly.

**Can you attach temp probes to the Duro-Line™ to measure refrigerant temperature?**
Yes. Non-marring clamps must be used to protect the tube coating.

**Can you run refrigeration flushing fluids through Duro-Line™?**
Yes.

**Is the Duro-Line™ Insulation UV rated?**
Yes. Armaflex Shield insulation is ASTM G154 tested to 5000 hours.

**Can Duro-Line™ be used on heat pumps?**
Yes.

**Is the copper flare gasket required to be used with the female fittings?**
Yes. HVAC sealant such as Supco® 3S or NYLOG is also required on both sides of gasket.

DURO DYNE
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