

Tufflite®
Safest Wire in the Air®

CARLISLE
INTERCONNECT TECHNOLOGIES



Tufflite Family

INTRODUCTION

In the early 1990s, Carlisle Interconnect Technologies (then Tensolite®) developed composite insulated Tufflite® to address the critical weaknesses of existing airframe wire designs. Other constructions such as polyimide and XL-ETFE failed to provide a good balance of properties in areas such as arc resistance, weight, size, temperature performance, smoke generation and flammability. Tufflite® addresses the need for a small, lightweight, arc resistant, 260° rated general purpose wire.

For over a decade, Tufflite® has been tested and flown on thousands of commercial and military aircraft. Its superior smoke, flame and toxicity performance enables it to be used safely in both pressurized and non-pressurized zones of the aircraft. Tufflite®'s wide temperature range and overall balance of properties make it an ideal replacement for all other general-purpose wire types, both military and commercial. Tufflite® is available in sizes from 26 to 4/0 AWG and is both hot stamp and laser markable.

FEATURES & BENEFITS

Excellent Temperature Performance

- » Available in 150°C, 175°C, 200°C and 260°C
- » Superior thermal life characteristics
- » The safety of high temperature resistant insulation in overload conditions independent of conductor

Superior Flammability and Smoke Generation Properties

- » Practically zero smoke generation and excellent resistance to flammability

Excellent Resistance Arc Propagation

- » Superior resistance to wet and dry arc propagation

Light Weight and Small Diameter

- » SLT has an approximate 5% weight savings over medium wall ST construction

Best Balance of Properties

- » Excellent flexibility and flex life
- » Highly resistant to hydrolysis
- » Superior abrasion resistance and cut-through performance

Tufflite® Part Numbering Guide

P/N Example: ST-200-2SJ-22S

ST	200	2	SJ	22	S
Family of Wire	Temperature Rating (°C)	No. of Conductors (not used for single insulated wire)	Shield & Jacket (not used for single insulated wire)	AWG Size	Conductor Material
SLT Thin Wall	150° 200° 260°		T = TCC Shield S = SCC Shield N = NCC Shield F denotes flat shield	26 to 10	T = Tin Coated Copper S = Silver Coated Copper SA = Silver Coated Copper Alloy N = Nickel Coated Copper NA = Nickel Coated Copper Alloy
TLR	260°		N = NCC Shield*	26 to 2	N = Nickel Coated Copper NA = Nickel Coated Copper Alloy
ST Enhanced Medium Wall	150° 200° 260°		T = TCC Shield S = SCC Shield N = NCC Shield F denotes flat shield	26 to 4/0	T = Tin Coated Copper S = Silver Coated Copper SA = Silver Coated Copper Alloy N = Nickel Coated Copper NA = Nickel Coated Copper Alloy
TLS Thick Wall	260°		N = NCC Shield F denotes flat shield	24 to 4/0	N = Nickel Coated Copper NA = Nickel Coated Copper Alloy
TLA Thick Wall	175°			8 to 4/0	A = EC Aluminum

* Spiral Shield

Tufflite® Selection Guide

Use this table to select the wire that best fits your requirements.

	TL	ST	SLT	TLR	TLS	TLA
Relative Insulation Thickness	Medium	Medium	Thin	Medium	Thick	Thick
Voltage Range	600	600	600	600	600	600
Temperature Rating	150°C / 200°C / 260°C	150°C / 200°C / 260°C	150°C / 200°C / 260°C	260°C	260°C	175°C
Conductor Material	Copper / Copper Alloy	Copper / Copper Alloy	Copper / Copper Alloy	Copper / Copper Alloy	Copper / Copper Alloy	Aluminum
Conductor Coating	Tin / Silver / Nickel	Tin / Silver / Nickel	Tin / Silver / Nickel	Nickel	Nickel	
AWG Range	26-4/0	26-4/0	26-10	26-2	24-4/0	8-4/0

Tufflite® Family

TL – Medium Wall, Normal Weight

Encompasses a family of wire and cable in three temperature ratings: 150°C, 200°C, and 260°C. TL is a multi-purpose normal weight wire which exhibits exceptional performance characteristics within the range of the critical parameters in airframe applications.

SLT - Thin Wall, Light Weight

A thin wall, light weight version of ST which can be used in various constructions. It also has value when considered as a single conductor offering a 5% weight savings over the ST construction while maintaining the same mechanical properties. SLT is available in 150°C, 200°C and 260°C.

TLR – Metric Medium Wall, Normal Weight

Encompasses a metric family of wire and cable with a temperature rating of 260°C. TLR is a multi-purpose normal weight wire which exhibits exceptional performance characteristics within the range of the critical parameters in airframe applications. 200°C and 260°C.

ST – Medium Wall, Normal Weight

Encompasses a family of wire and cable in three temperature ratings: 150°C, 200°C, and 260°C. ST is a multi-purpose normal weight wire which exhibits exceptional performance characteristics within the range of the critical parameters in airframe applications. This construction offers enhanced Hydrolysis Resistance and Cut-Through.

TLS – Thick Wall, Abrasion Resistant

An increased wall version which can be utilized in applications requiring superior mechanical capabilities such as abrasion resistance and dynamic cut-through. This insulation system may be used as a reduced size and weight replacement for MIL-W-22759/5 to /8. TLS is rated at 260°C.

TLA – Aluminum Conductor

An increased wall thickness version utilizing an aluminum conductor for power feeder applications. Improved mechanical performance including superior flexibility as compared to traditional polyimide insulated power feeder cables. TLA is rated at 175°C.