MIG WELDING wire liners

STEEL

Coated steel liners

These are the most commonly available liners on the market, made from a steel spiral coated with a layer of plastic that prevents the loss of shielding gas.

Uncoated steel liners

These, like coated liners, are widely used in the market and are used only in water-cooled torches where the shielding gas passes through a separate hose.

Uncoated steel liners with inner Teflon® slider

Uncoated steel liners with Teflon® slider combine the characteristics of steel liner such as durability and high resistance to abrasion, as well as the ability of Teflon® (PTFE) material to feed the welding wire more easily and smoothly.

TEFLON®

Teflon® liners are particularly suitable for aluminum welding as they provide maximum smoothness in wire feeding.

TEFLON® *with copper terminal*

These liners are manufactured from the same materials as Teflon® liners and are characterized by a 330 mm long copper terminal that is screwed into the front end of the liner to prevent the Teflon® liner from entering the torch head. This prevents possible deformation of the Teflon® liner caused by heat inside the torch head, which could cause problems with smooth movement and feeding of the welding wire. Liners with copper terminal are suitable for aluminum welding where temperature at the end of the liner are high enough to melt or to deform Teflon® material.

CARBON - *Teflon® + 2% Carbon*

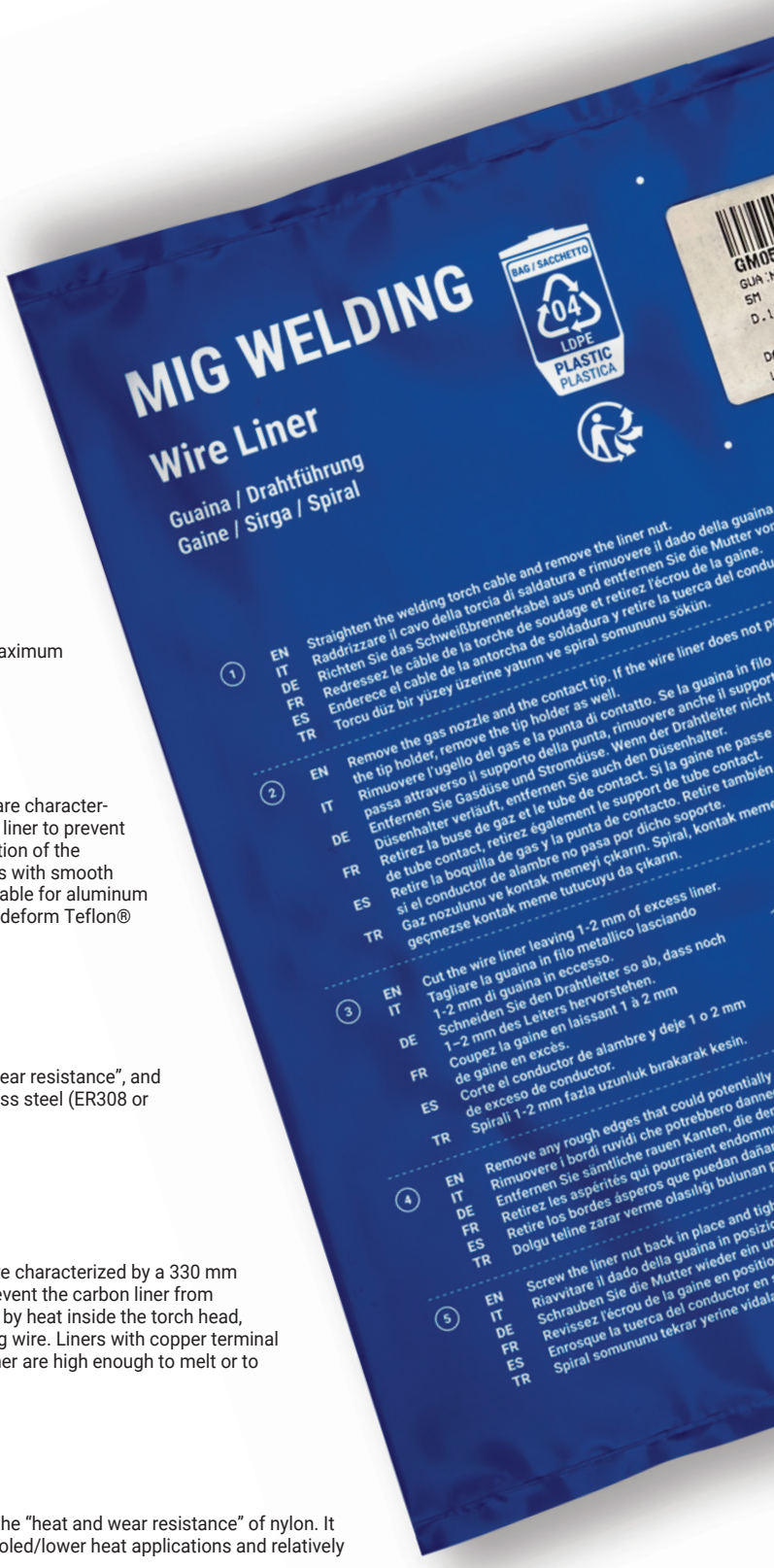
The main component of these liners is Teflon. 2% carbon material increases “wear resistance”, and Teflon provides the “lubrication” feature to the combination. Suitable for stainless steel (ER308 or ER309), flux-cored and relatively harder aluminum alloy wires such as ER5356.

CARBON *with copper terminal* - *Teflon® + 2% Carbon*

These liners are manufactured from the same materials as carbon liners and are characterized by a 330 mm long copper terminal that is screwed into the front end of the carbon liner to prevent the carbon liner from entering the torch head. This prevents possible deformation of the liner caused by heat inside the torch head, which could cause problems with smooth movement and feeding of the welding wire. Liners with copper terminal are suitable for the welding applications where temperature at the end of the liner are high enough to melt or to deform Teflon®+carbon material.

GRAPHITE *with copper terminal* - *Nylon + 12% Graphite*

The main component of these liners is Nylon. 12% graphite material increases the “heat and wear resistance” of nylon. It is a cheaper solution than Teflon®+carbon liners. Suitable for lower duty/air cooled/lower heat applications and relatively softer aluminum wires such as ER4043.
They are characterized by a copper terminal with a length of approximately 330 mm, which is screwed onto the front-end of the liner to prevent the graphite liner from entering the torch head. This prevents possible deformation of the graphite liner inside the torch head, which could cause problems with the smooth movement and feeding of the welding wire. Liners with copper terminal are suitable for the welding applications where temperature at the end of the liner are high enough to melt or to deform nylon+graphite material.



This document contains the information for reference purposes only. Individual results may vary depending on the welder's skill, material type and process parameters.

	FILLER MATERIAL TYPE	CRITERIA		
		Feeding Smoothness	Heat Resistance	Service Life
STEEL	Steel and ferrous material	●	●●	●●
	Stainless steel	●	●●	●●
	Bronze copper and brass alloys	○	●●	○○
	Aluminum alloys	○	●●	○○
TEFLON®	Steel and ferrous material	●●	○○	○
	Stainless steel	●●	○	○
	Bronze copper and brass alloys	●●	●	●
	Aluminum alloys	●●	●	●
TEFLON® *with copper terminal*	Steel and ferrous material	●	●●	○○
	Stainless steel	●	●●	○○
	Bronze copper and brass alloys	●	●●	●●
	Aluminum alloys	●	●●	●●
CARBON Teflon® + 2% Carbon	Steel and ferrous material	●●	○○	○
	Stainless steel	●●	○	○
	Bronze copper and brass alloys	●●	●	●
	Aluminum alloys	●●	●	●
CARBON *with copper terminal* Teflon® + 2% Carbon	Steel and ferrous material	●	●●	●
	Stainless steel	●	●●	●
	Bronze copper and brass alloys	●	●●	●●
	Aluminum alloys	●	●●	●●
GRAPHITE *with copper terminal* Nylon + 12% Graphite	Steel and ferrous material	●	○	○
	Stainless steel	●	○	○
	Bronze copper and brass alloys	●	○○	○○
	Aluminum alloys	●	○○	○○

CRITERIA		ASSESMENT	
Feeding Smoothness	... of the wire in the liner	○	Low
Heat Resistance	Capacity of withstand high temperatures	○○	Sufficient
Service Life	... of the liner over time	●	Good
		●●	Excellent

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