DID YOU KNOW ?

FULL METAL ALTERNATIVE TO PLASTIC, ALUMINUM AND HYBRID LINK STABILIZERS

ADVICE FOR THE PROFESSIONAL
DYK23-21

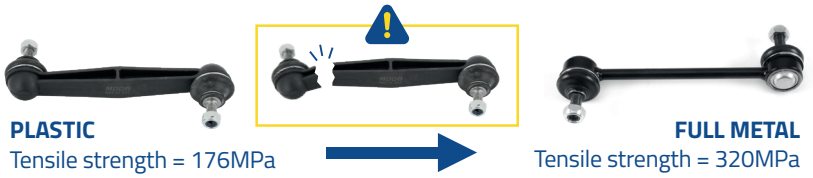
OVERVIEW

In order to reduce vehicles weight, car manufacturers are now often using lighter materials for various spare parts. Even if they are quite small parts within a whole vehicle, sway bar links are not exceptions to the rule, and are more and more made of plastic, aluminum or hybrid metal/plastic:

Plastic | **Aluminum** | **Hybrid metal / plastic** | **Steel version**

Although the OE design performs well under normal driving conditions, MOOG is also offering steel reinforced alternatives that are stronger and will last longer thanks to the following technical properties :

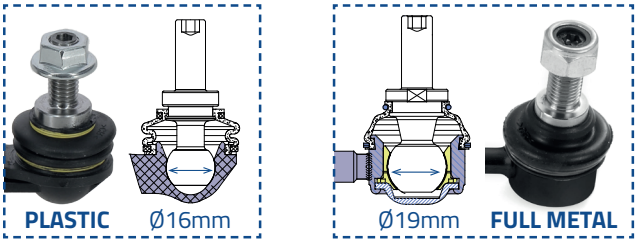
- Offer higher mechanical properties, reducing the risk to break the part during hard driving conditions (high speed on potholes, curbs, bad roads, ...)
  ➔ **safer**



PLASTIC
Tensile strength = 176MPa

FULL METAL
Tensile strength = 320MPa

- Often allows higher ball diameter than link stabilizers of new materials/technologies. Moreover, the ball stud can efficiently work within a dedicated POM bearing, rather than in the same plastic material as the one used for its housing
  ➔ **more durable**



PLASTIC Ø16mm | Ø19mm **FULL METAL**

- Inherits all unique differentiation features developed by MOOG (TPU dust boot, synthetic grease, Zn flaked nuts, CR+3 coating, metal closing cap, ...)
  ➔ **more durable**

On the other hand, as steel alternative version has a different design than original product, full metal link stabilizers will have to be replaced by pair (fitting different material/technology on LHS and RHS of the axle, is not allowed and will inevitably lead to car rejection if spotted during periodic technical inspection organized by most Governments in European countries).

Ultimately, all technologies have pros and cons (summarized here below) and their respective selection will highly depend on mechanic's perception. That's why MOOG, in addition to create stronger steel alternative (suffixed 'M'), also keeps OE-alike version in range, leaving installer all freedom to select his preferred solution !

	PLASTIC	ALUMINUM	HYBRID	FULL-METAL
Resistance to normal driving conditions	+	+	+	++
Resistance to extreme driving conditions	--	-	-	+
Durability	+ / -	+ / -	+ / -	++
OE-alike design	+	+	+	-
Can be individually replaced	+	+	+	-

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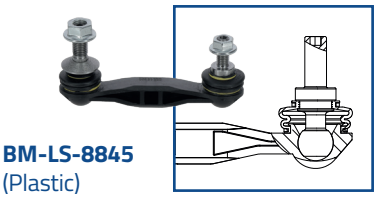
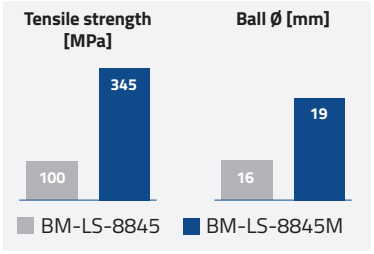
MOOG STEEL ALTERNATIVE RANGE :

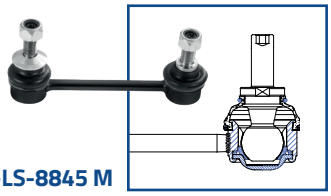
MOOG ORIGINAL REFERENCE	MOOG ORIGINAL MATERIAL	MOOG STEEL ALTERNATIVE	MAKE	MODELS	POSITION
AL-LS-7542	Plastic	AL-LS-7542M	ALFA ROMEO	147, 156, GT	Rear axle Left & Right
BM-LS-10919	Plastic	BM-LS-10919M	BMW	1, 2, 3, 4, i8, X1	Rear axle Left
BM-LS-10920	Plastic	BM-LS-10920M	BMW	1, 2, 3, 4, i8, X1	Rear axle Right
BM-LS-14782	Hybrid	BM-LS-14782M	MINI	MINI	Front axle Left & Right
BM-LS-8845	Plastic	BM-LS-8845M	BMW	5, 6	Rear axle Left & Right
ME-LS-10471	Aluminum	ME-LS-10471M	MERCEDES-BENZ	CLS, E-CLASS	Front axle Left
ME-LS-10472	Aluminum	ME-LS-10472M	MERCEDES-BENZ	CLS, E-CLASS	Front axle Right
NI-LS-12697	Aluminum	NI-LS-12697M	NISSAN	CUBE, MICRA, NOTE, NV200	Front axle Left & Right
RE-LS-15514	Aluminum	RE-LS-15514M	RENAULT	ESPACE, MEGANE, SCÉNIC, TALISMAN	Front axle Left & Right
RE-LS-7999	Aluminum	RE-LS-7999M	RENAULT	MEGANE, SCÉNIC	Front axle Left & Right

TENSILE STRENGTH AND BALL DIAMETER COMPARATIVE ANALYSIS :

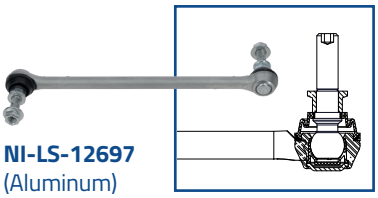


BM-LS-8845
(Plastic)

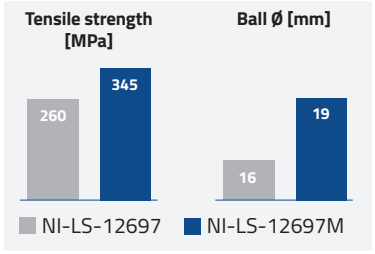


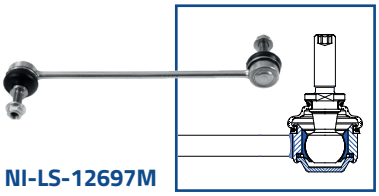


BM-LS-8845 M

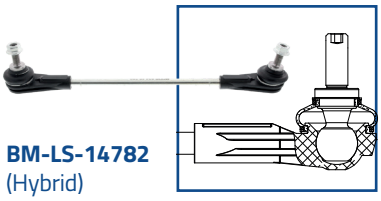


NI-LS-12697
(Aluminum)

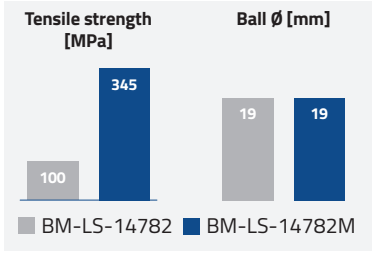


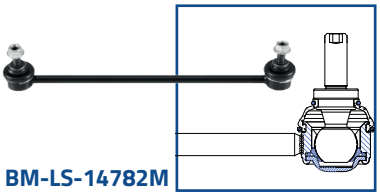


NI-LS-12697M



BM-LS-14782
(Hybrid)





BM-LS-14782M

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