

Base  
of

# MOLYBDENUM SEALING RIBBON



Identification: LV 987-369-008 (page 5-1) (CA) date new: 2000-10-178 (date old:1996-11-08)

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## MOLYBDENUM SEALING RIBBON

### INTRODUCTION

Philips Lighting manufactures molybdenum ribbon with specific characteristics for sealing purposes in quartz lamps.

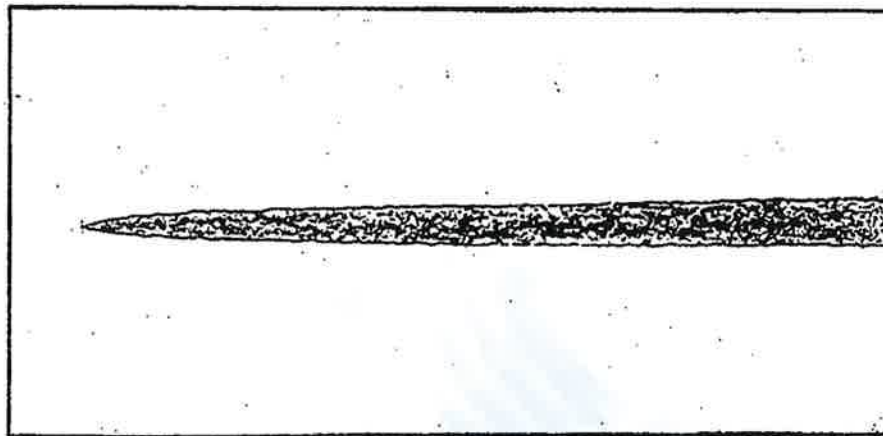
Molybdenum ribbon is fused into the pinch of high-intensity discharge lamps and halogen lamps for current lead-in.

High demands are made on this molybdenum sealing ribbon in view of the high sealing temperature and high pinch pressure.

The molybdenum sealing ribbon as developed by Philips has special material characteristics such as fine fibre structure, high recrystallisation temperature and high hot tensile strength.

The specific cross-section as demanded by the application is achieved by means of an etching process specially designed for this purpose.

The result is a sealing ribbon with much improved characteristics in terms of susceptibility to cracking, welding strength, adhesion to the quartz and dimensional tolerances.



Photomicrograph (220x) of an etched ribbon 0.030 x 2.1 mm



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### PACKING AND IDENTIFICATION

Reel diameter : 55 mm  
Hole diameter : 20 mm  
Inside reel width : 1.5 - 3.0 mm wider than ribbon width

The spooled product is packed in plastic bags with a low permeability to water and silica gel is added.

After evacuation, this bag is sealed to protect the product against damage and oxidation during transport and storage.

On each reel the following information is provided.

Code number (= ordering number)  
Thickness ( $\mu\text{m}$ )  
Width (mm)  
Length (m)  
Lot identification number  
Reel number  
Date/time

With each unit, a quality certificate is provided, showing the measurements results.

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## MOLYBDENUM SEALING RIBBON

### PRODUCT SPECIFICATION

Material composition	: Mo with 0.6 - 0.8 % Yttrium-oxide
Vickers hardness	: 270 - 350 HV
Tensile strength at 25°C	: 790 - 1090 N/mm <sup>2</sup>
Tensile strength at 1600°C	: > 45 N/mm <sup>2</sup>
Elongation	: ≥ 2.0 %
Recrystallisation temperature	: 1200 - 1400°C
Surface roughness Ra	: ≤ 0.35 µm (rolled)

Standard dimensions and ordering numbers:

Ordering number	Thickness (µm)	Width (mm)	Etching angle (°)
0522 097 06002	28 ± 3	3.0 ± 0.2	5.0 ± 2.0
0522 097 06003	30 ± 3	2,1 ± 0.2	5.0 ± 2.0
0522 097 06005	33 ± 3	4.8 ± 0.2	5.5 ± 2.0
0522 097 06007	39 ± 3	4.1 ± 0.2	6.0 ± 2.0
0522 097 06008	23 ± 3	2.4 ± 0.2	4.0 ± 2.0
0522 097 06012	42 ± 3	5.0 ± 0.2	5.5 ± 2.0
0522 097 06014	28 ± 3	3.9 ± 0.2	5.5 ± 2.0
0522 097 06015	33 ± 3	4.3 ± 0.2	5.0 ± 2.0
0522 097 06017	42 ± 3	7.5 ± 0.2	5.5 ± 1.5
0522 097 06018	42 ± 3	9.8 ± 0.2	5.5 ± 1.5
0522 097 06021	28 ± 3	2.4 ± 0.2	5.0 ± 2.0
0522 097 06022	34 ± 3	3.1 ± 0.2	5.0 ± 2.0
0522 097 06023	28 ± 3	2,0 ± 0.2	5.5 ± 2.0

Other sizes can be made to order with similar tolerances.  
Delevery time pending availability of tooling.

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## Finish , Available Size and Application

Type	ordering no	finish	dimensions (mm)	application
MY (HID)	0522 097 06021	etched	0.028x2.4	High pressure mercury Lamps
	0522 097 06022	etched	0.034x3.1	MSR
	0522 097 06005	etched	0.033x4.8	High pressure metal halide lamps
	0522 097 06008	etched	0.023x2.4	
	0522 097 06014	etched	0.028x3.9	
MY (HAL)	0522 097 06002	etched	0.028x3.0	F.L.L. Halogena
	0522 097 06015	etched	0.033x4.3	General Lighting
	0522 097 06005	etched	0.033x4.8	IRK
	0522 097 06009	etched	0.039x4.8	SSTV
	0522 097 06021	etched	0.028x2.4	dichronic
MY (Auto)	0522 097 06021	etched	0.028x2.4	H4
	0522 097 06002	etched	0.028x3.0	H1,H7
MY (Sleeves)	0522 097 04024	cut	0.12x3	Automotive
	0522 097 04025	cut	0.12x2	Automotive
	0522 097 04062	cut	0.12x2.7	Automotive

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