

# THE USE OF A LASER LEVEL IN CREATING CUSHIONING FOR THE TRANSPORT OF OBJECTS

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## 1. THE USE OF A LASER LEVEL TO TRACE AN OBJECT

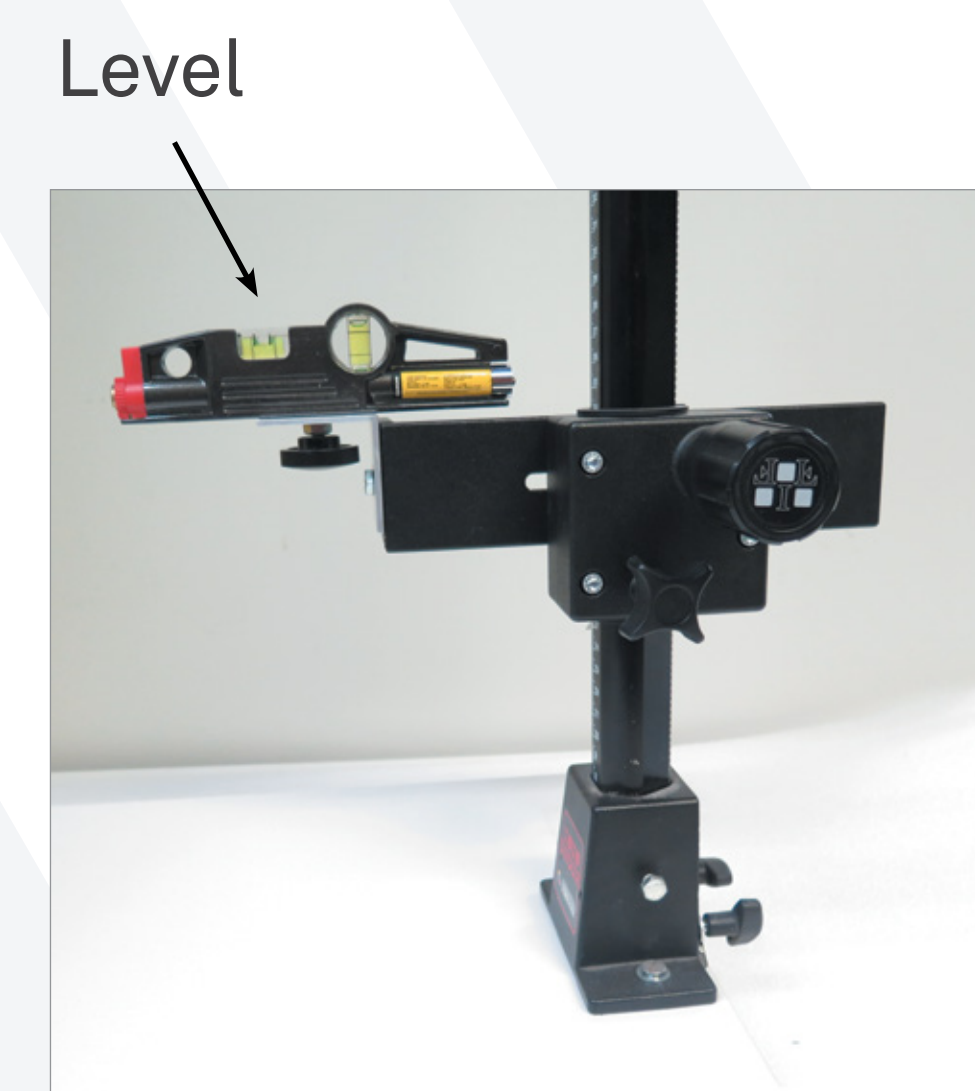
There are **many advantages** in the use of a laser level during the packing of objects for transport. The example here is a small doll, dressed in a parka whose fur can be easily lost during manipulation. In this case the main advantage of the use of a laser level is the **minimal manipulation** that the doll undergoes during the preparation of cushioning. The laser level also produces a very **precise outline**, and can be used with a **wide variety of objects**, large and small.



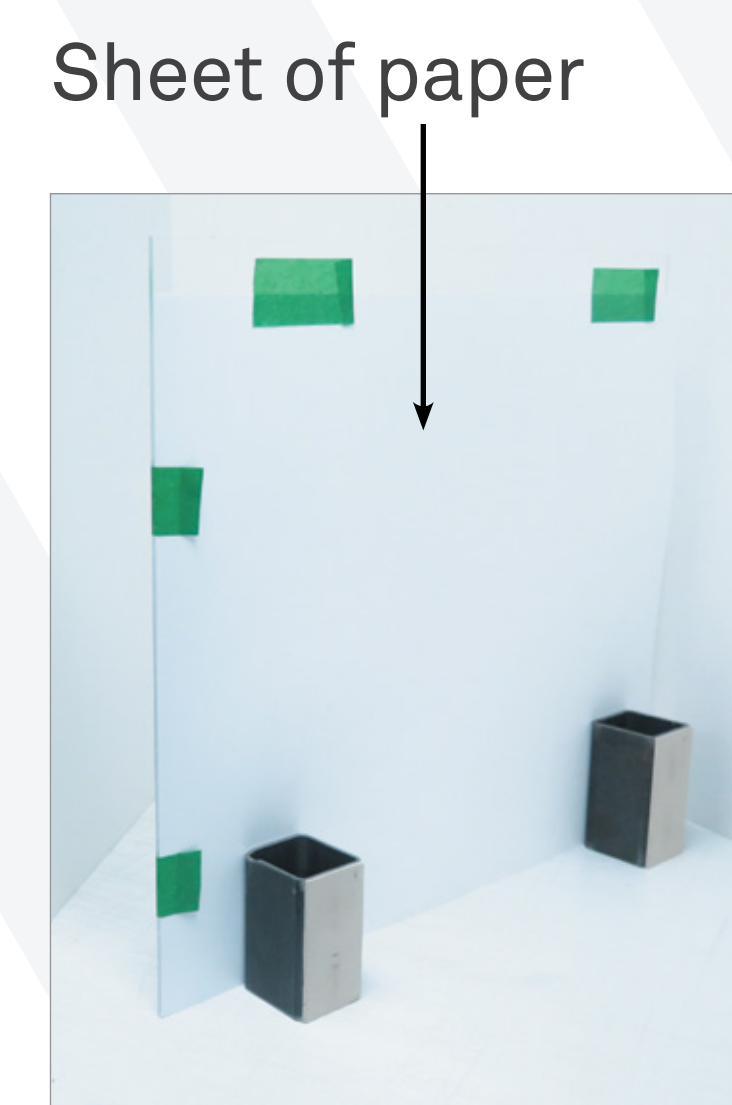
Doll dressed in caribou and hare fur  
ACC5919.1-2  
23.3 X 10.8 X 4.5 CM  
COLLECTION MCCORD MUSEUM



## 2. TOOLS



Photographic copy stand



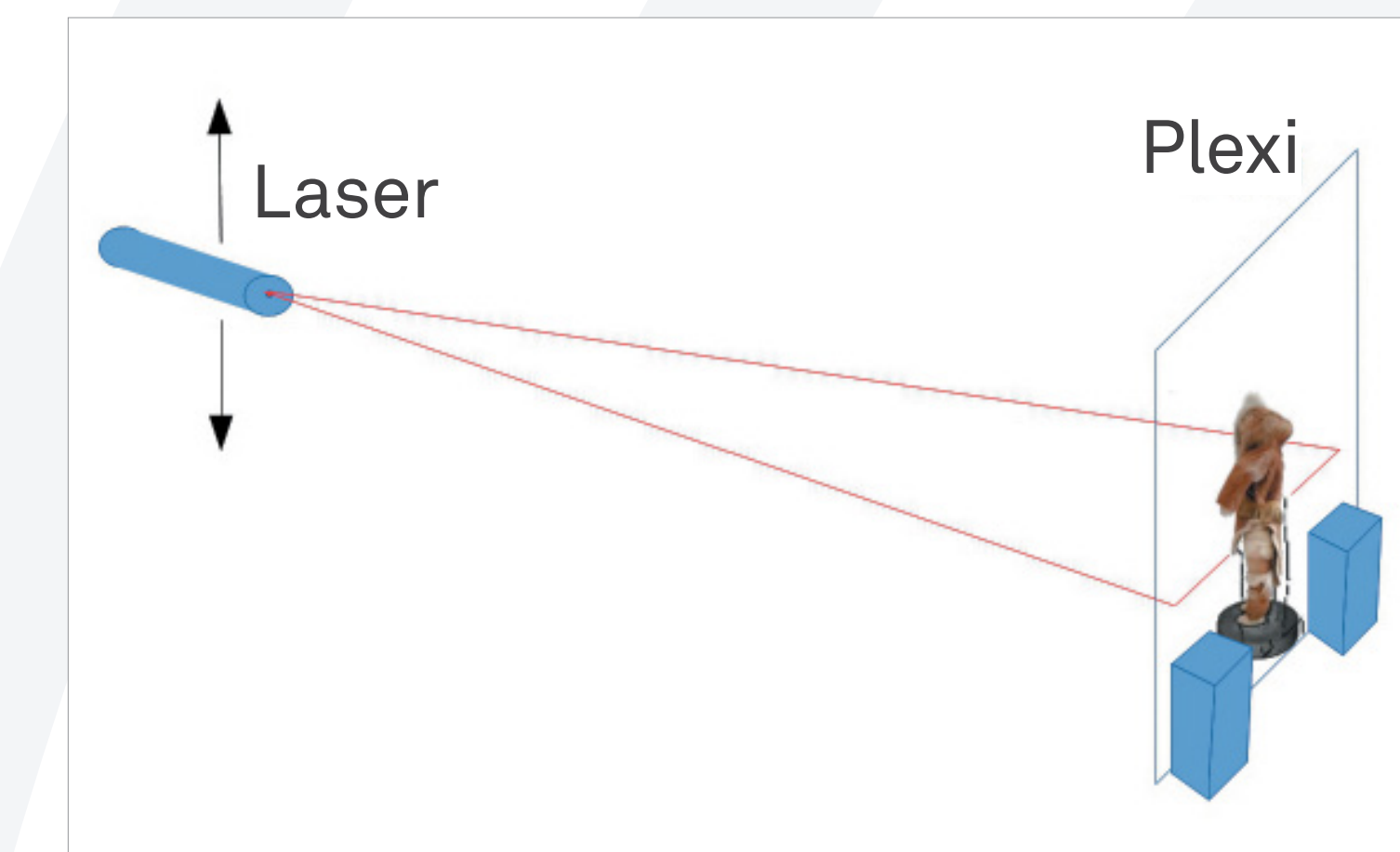
Plexiglas, metal blocks and magnets

## 3. PROCEDURE

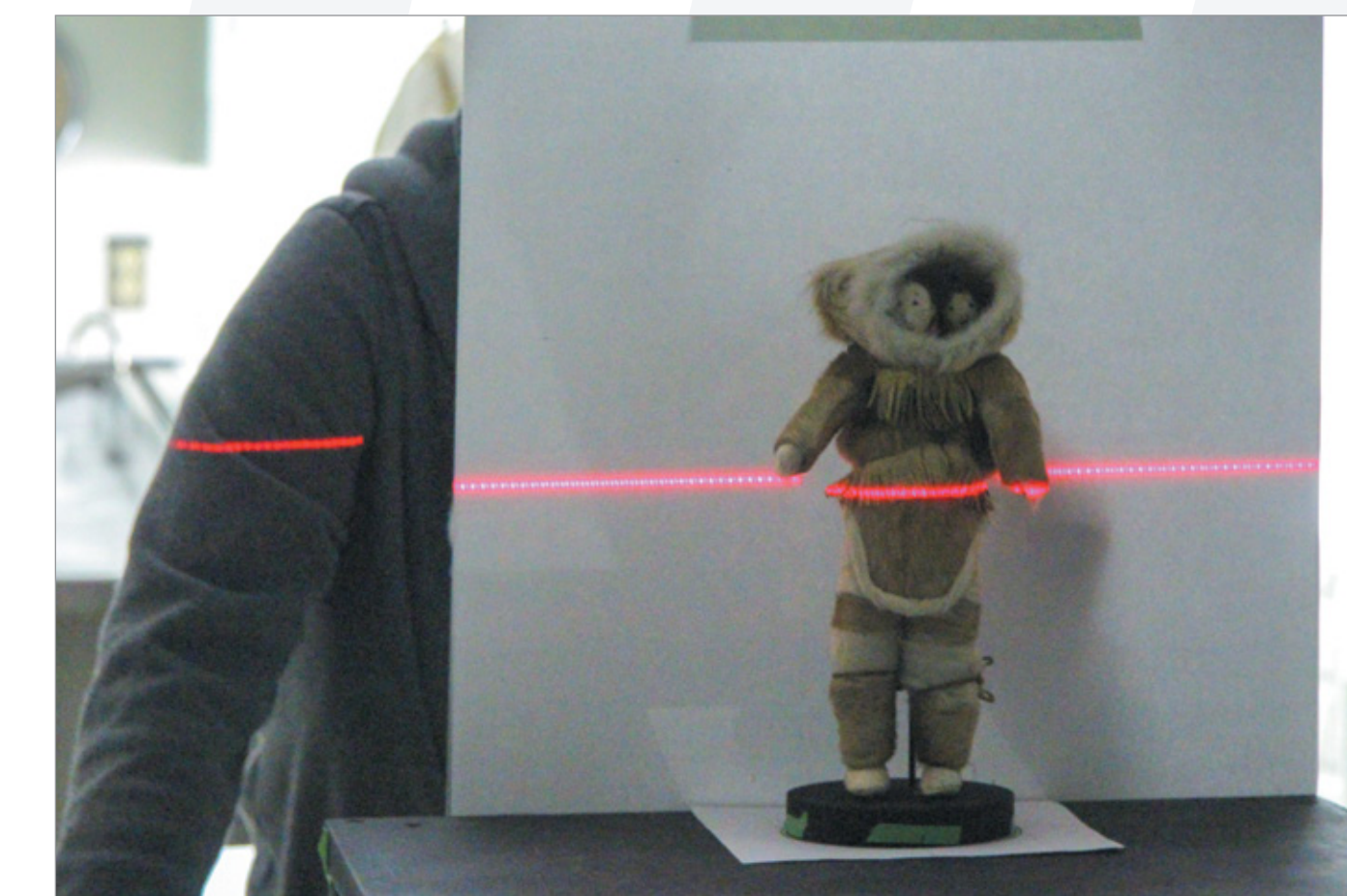
While one person progressively sweeps the object with the beam of a laser level, which has been installed on a copy stand, the other person traces the contour of the object on a sheet of paper, following the path of the light. Step 1: The optimal sides to be traced are selected, according to the shape of the object. Step 2: A guide is used to pivot the object exactly 90°. This ensures that the outlines of the front and the side are properly aligned. Step 3: The object is traced. The larger the object the more distance is needed between it and the laser to prevent deformation due to the angle of projection.



The green lines show the guide for the correct rotation of the object at 90°.



- minimum distance: 10 feet for small objects of about 10 inches
- doll in front of the plexi
- sheet of paper for tracing form behind the plexi



The procedure illustrated. Here the front and side were chosen.

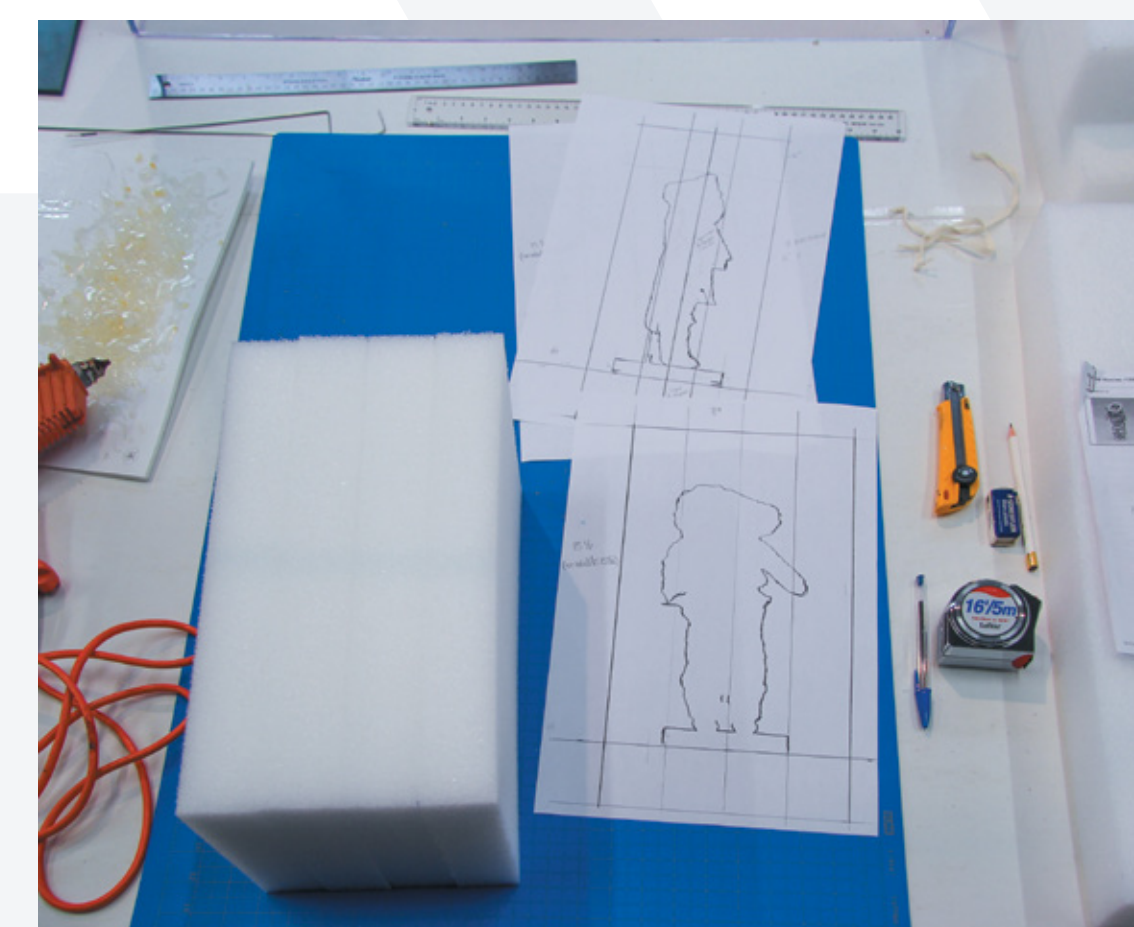
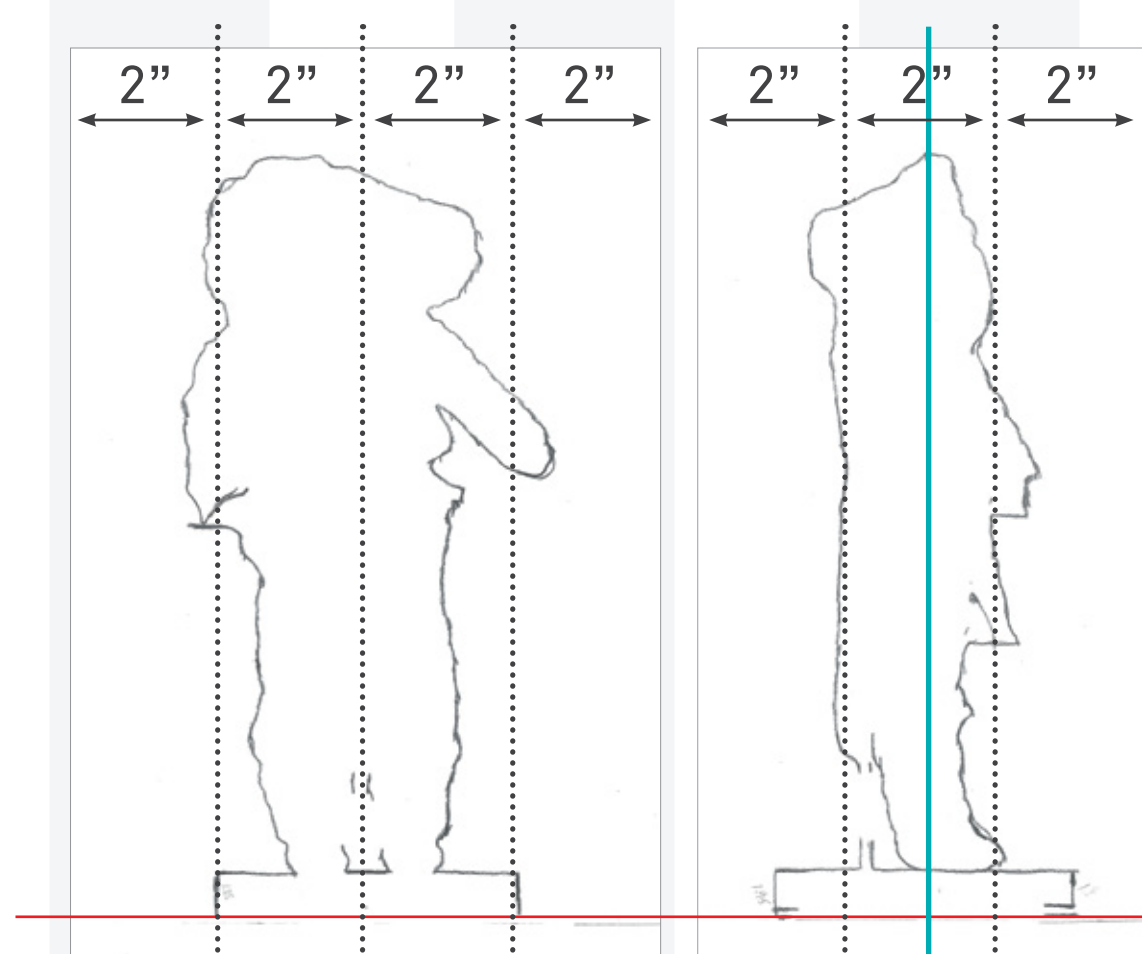


## 4. CUTTING THE FOAM BLOCK

Two successive cut-outs are made in the foam block according to the tracings of the two sides. Two intermediate forms are thereby obtained: a negative shape which will be used for cushioning the object, and a positive form, which will be used for making adjustments in the shape of the final cushioning. Note that it is always preferable to work with copies of the original sketches.



Front Side



The final dimensions of the block are determined by the outlines. Here, four pieces of 2-inch Ethafoam were used. Final dimensions of block: 14.5" x 8" x 6".

The grey rectangle shows the final size of the Ethafoam block. The orange line underscores the importance of the alignment of the base of the object, front and side. The turquoise line shows the optimal division of the front and back of the foam block.



The shape is cut out with the band saw. Because the foam block must fit into the saw, larger blocks must be sectioned for cutting and then reassembled later.

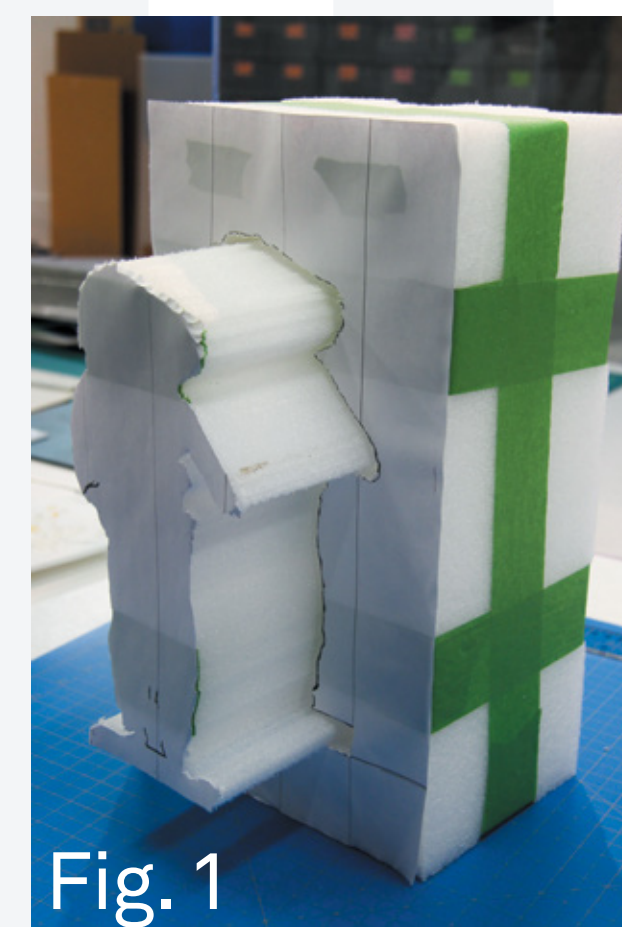


Fig. 1

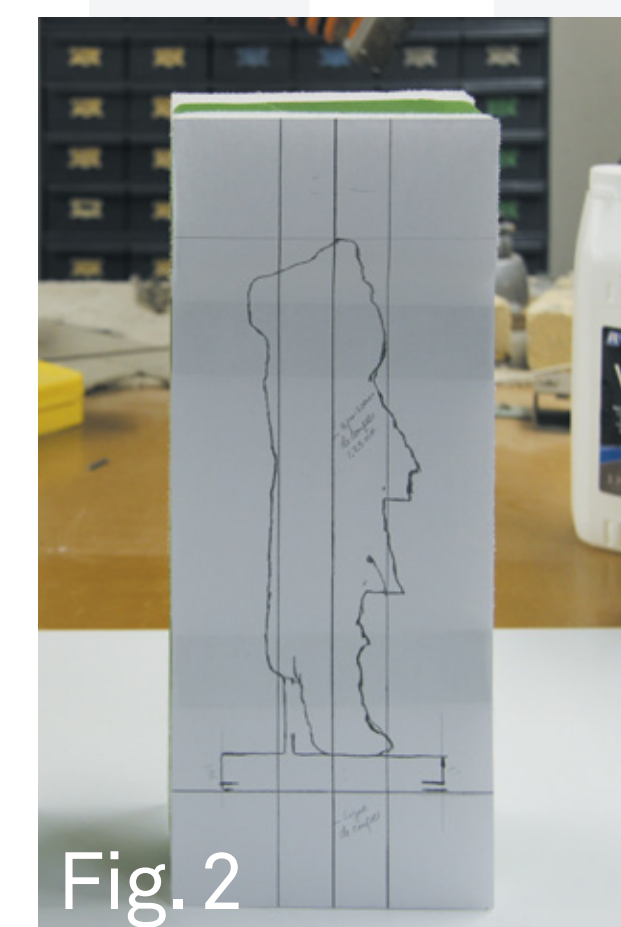


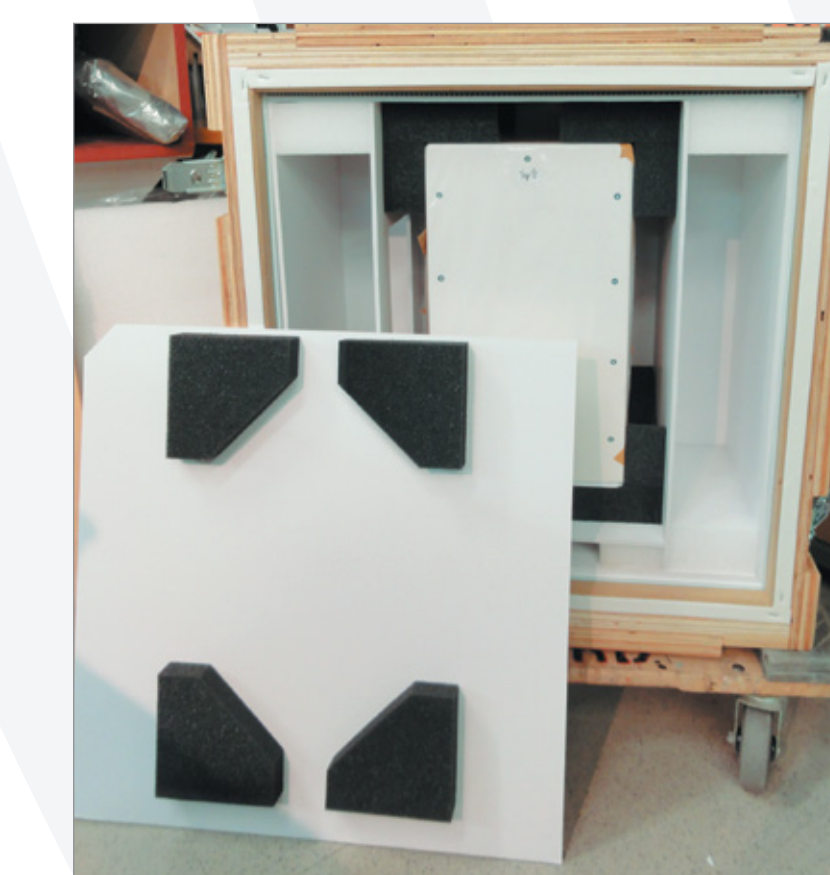
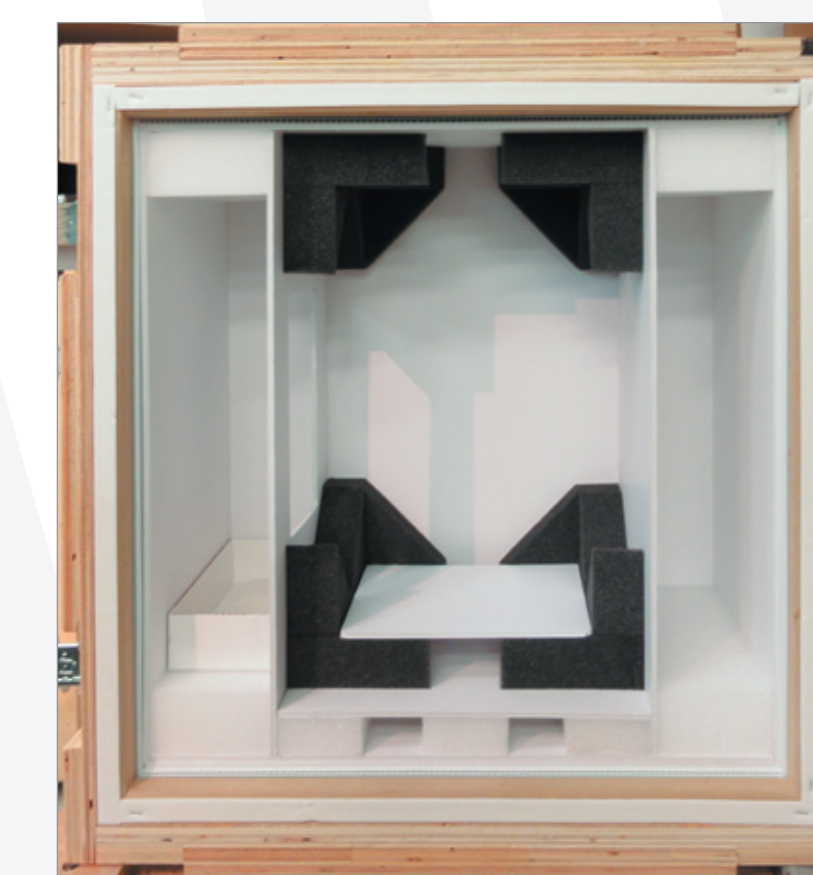
Fig. 2



The first cut out shape must be re-inserted into the block (Fig. 1) before proceeding with the second cut. (Fig. 2) Attention must be paid to the positioning of the side outline onto the correct side of the block, to ensure that the final shape is not reversed.

## 5. STEPS IN THE CUSHIONING OF THE OBJECT

The close correspondence of the negative form of the foam with the shape of the object diminishes the movement of the object, and helps to limit abrasion and shock that can occur during transport. This type of cushioning works well with double crate packing<sup>1</sup>. This system is illustrated below:



## ANOTHER EXAMPLE – MODEL ARGILLITE TOTEM POLE

This object presents many challenging packing issues; the most compelling include its complex silhouette, its heavy weight (2.8 kg), and the inherent fragility of the argillite. These factors indicate vertical packing of the object, with a distribution of the weight over its base. The cushioning of the object resulting from the use of the laser level provides excellent support during transport.

ME937.19.1-2  
MODEL TOTEM POLE  
ARGILLITE, 42.5 X 7.7 X 7 CM  
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