

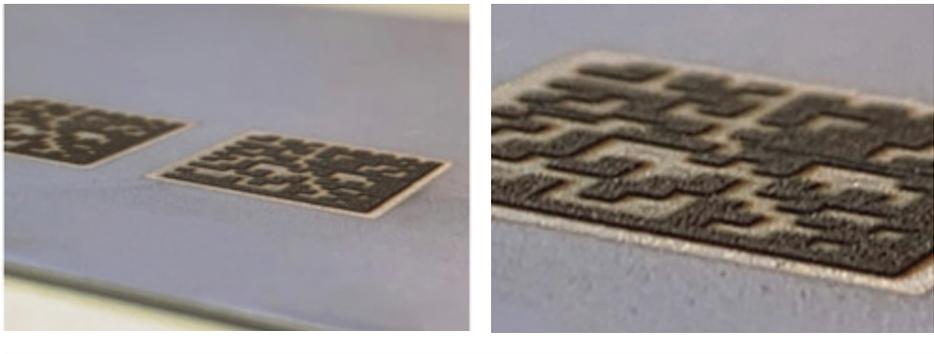
MARKING ON CAR TYRES AND TECHNICAL PLASTIC

Bradma laser equipment is used to encode and mark products of a wide variety of materials, including paper, cardboard, plastics (PET, PVC, HDPE), glass, metals and wood. The messages and graphics that are achieved are of high quality, at a minimum operating cost at high speeds.

Application News regularly provides a sample of products that are encoded and labelled with Bradma lasers, every day and worldwide.

CAR TYRES

On certain occasions, the marking of a piece must be carried out at an intermediate step of the production process. This implies that a marking must be resistant to the processes in the manufacturing chain that follow on, which can be very aggressive due to the process itself and the working conditions.



In this application, a Data matrix is engraved with a minimum relief that ensures reading and correct maintenance after a deformation and painting process.

The Data matrix code engraved consists of a 16x16 cell array that encodes a 20-digit alphanumeric code. To obtain the highest contrast and ensure a better reading, the engraving process is carried out over two stages.

In the initial stage, the area is swept at high frequencies and speeds, which allows the bottom to be cleaned and standardized. In the second stage, the Data matrix itself is marked at a low speed and a medium frequency range. The result is a high definition, aggressive reaction that provides high contrast and relief, basic to support the subsequent painting process without losing its properties.



LASER	Macsa SPA F-20
LENS	100 x 100
INDUSTRY	Automotive
APPLICATION TYPE	Traceability
PRODUCT	Car tyre
MATERIAL	Raw steel
MARKING TYPE	Static
MARKING TIME	25 sec

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AUTOMOTIVE COMPONENT

Technical plastics are widely used in the automotive market. Its properties and variants allow its application in different vehicles parts ensuring resistance, flammability, hardness, etc. In practice, almost every application has its specific plastic variant.

For marking on technical plastics, one of the best marking tools are DPSS lasers with a wavelength of 1064nm, as they produce a high contrast, colour changing reaction at a very high speed.

The marking of this application, formed by a Data matrix code of 18x18 cells and a set of alphanumeric codes, was carried out with a 6W device with a 160x160mm lens that allows the marking of several pieces at once. The marking time of each piece is 1.1 second.

The result is a maximum contrast marking that ensures readability of the codes and immediate Data matrix.



LASER	Bradma NANO D-6006 DUO
LENS	160 x 160
INDUSTRY	Automotive
APPLICATION TYPE	Traceability
PRODUCT	Automotive component
MATERIAL	Polybutylene Terephthalate (PBT)
MARKING TYPE	Static
LINE SPEED	1.1 sec