## Annex to the tender documentation-Technical Documentation

2.3. Technical conditions and characteristics of the subject of procurement - the aluminum plates for producing of the state number plates (hereinafter the "Plate') (including the minimal requirements for the design and protection mechanism).
The aluminum plates for producing of the state number plates shall comply with the following requirements:

### 2.3.1. Sizes and color of the state number plate of the motor vehicle:

2.3.1.1. Standard: 520.8 X 112.6 mm (color of the light reflector - white, with a blue line)

2.3.1.2 Square 1: $282,8 \mathrm{~mm} \mathrm{X} 182.6 \mathrm{~mm}$ (color of the light reflector - white, with a blue line)

2.3.1.3 Square 2 (motorcycle): $179 \mathrm{~mm} \mathrm{X139} \mathrm{~mm} \mathrm{(color} \mathrm{of} \mathrm{the} \mathrm{light} \mathrm{reflector} \mathrm{-} \mathrm{white} ,\mathrm{with} \mathrm{a} \mathrm{blue} \mathrm{line)}$

2.3.1.4 Diplomatic 1a: 520.8 mmX 112.6 mm (color of the light reflector - red, visual according to the standard numberplate, without a flag)

2.3.1.5 Diplomatic 1b: $282.8 \mathrm{mmX1} 182.6 \mathrm{~mm}$ (color of the light reflector - red, visual according to the square number plate, without a flag)

2.3.1.6. Diplomatic 1c (motorcycle): $179 \times 139 \mathrm{~mm}$ (color of the light reflector - red, visual according to the square 2 number, without a flag).

2.3.1.7. Diplomatic 2a: $520.8 X 112.6 \mathrm{~mm}$ (color of the light reflector - green, visual according to the standard number plate, without a flag)

2.3.1.8 Diplomatic 2 b : 284 mm X 183.8 mm (color of the light reflector - green, visual according to square number plate, without a flag)

2.3.1.9 Diplomatic 2c (motorcycle): $139 \mathrm{~mm} \mathrm{X179} \mathrm{~mm} \mathrm{(color} \mathrm{of} \mathrm{the} \mathrm{light} \mathrm{reflector} \mathrm{-} \mathrm{green} ,\mathrm{visual} \mathrm{according} \mathrm{to} \mathrm{the} \mathrm{square} \mathrm{number} \mathrm{plate} ,\mathrm{without} \mathrm{a} \mathrm{flag)}$

2.3.1.10 Diplomatic 3a: 520.8X112.6mm(color of the light reflector - blue, visual according to the standard number plate, without a flag)

2.3.1.11 Diplomatic 3 b : 282.8 X 182.6 mm (color of the light reflector - blue, visual according to the square number, without a flag)

2.3.2. Motor vehicle state registration number plate

- Motor vehicle state number plate shall be produced by the aluminum alloy material, that should be in line with the indexes provided for in the table below:

| Characteristics of alloy |  |
| :---: | :---: |
| Alloy: | EN AW-1200 [Al99] classification EN 573-3 |
| Mechanical characteristics |  |
| Resistance on tension: | $>80 \mathrm{Mpa}$ |
| Percolation conditional limit: | $>70 \mathrm{Mpa}$ |
| Stretching: | $>9 \%$ |
| Thickness: | $0,98 \mathrm{~mm}$ (allowed deviation: $+/-0,03 \mathrm{~mm})$ |

- The sides of the state registration number plates shall be pressed as given below in the drawing:

- The other side of the plate for producing the number plates shall be covered with the protective varnish layer.
-The front side of the number plate for the motor vehicle shall be covered with light reflecting coating, which enables to implement mechanical embossing and hot sealing on the number plate.


### 2.3.3. Light reflecting layer

- Photometric and colorimetric characteristics of ligh reflecting layer shall comply with the ISO 7591 requirements.
- Light reflecting coating/layer shall be resistant against external factors.
- Color background on all type of number plates shall be performed by a layer-based printing technology.


### 2.3.4. Special elements applied to the light reflecting coating/layer

## The following special elements shall be on the light reflecting coating/layer:

- The flag of Georgia, which shall be applied by the interlayer printing method;
-The hologram protecting from falsification shall be applied with the hot embossing method;


## Note:

The flag of Georgia shall be deposited on the plates for producing number plates envisaged by the sub-clauses 2.3.1.1, 2.3.1.2. and 2.3.1.3 of the tender documentation.

### 2.3.5. Hologram

Hologram shall be carried out on the chrome or same basis and shall have the following protective mechanisms:

- In-depth image with the lenses effect;
- Color expression (hologram design elements shall be produced in the form, that the design elements illuminate from various corners while observing and look colorful);
- Colored micro text (the micro text shall be applied onto the hologram);
- Colored contrast;
- Concealed deviation.

Hologram sample (diameter $23+/-1 \mathrm{~mm}$ ):


- Hologram final sample shall be agreed with the buyer.


### 2.3.6. Other protective elements

- In addition to the hologram a special sign-symbol against falsification shall be put on the number plate being visible only from certain angles. The signsymbol shall be put by using laser by layer printing technology and the Service Agency logo shall be illustrated on it. The diameter of the mentioned signsymbol shall be $10 \pm 1 \mathrm{~mm}$ and shall be depicted as a grid on the front side of the plate. The mentioned special sign-symbol shall be maintained on the state number plate throughout its entire exploitation.
- At least two-level barcode DMC (Data Matrix Code) shall be depicted on all type state number plates and its depiction shall be implemented on the reflective coat inner layers through laser on the front side of the plate (to the right in the corner below, under the hologram). The barcode shall not have a negative impact on light reflecting function or on quality of the protection against corrosion on the metal surface.
- The size of the barcode shall be 13 X 13 mm and shall have enough contrast in order to read the encrypted data by ordinary decoding means. The barcode shall include the following alphabet-digital information:
- In total 12-16 symbols. Permissible symbols: digits 0-9, Latin letters - A-Z.
-The protective elements shall not be damaged or removed from the surface of the number plate by means of chemical substances or due to physical exposure.
-The exact location of the protective elements on the number plates shall be specified by the buyer after signing the contract.
-The protective element shall be noticeable with naked eye.


### 2.3.7. Thermotransformer layer/tape for colouring number plates

- As the result of the mechanical pressure onto the number plates the embossed symbols coloring shall be carried out thermally, on the special equipment, via hot imprint. The hot imprint equipment shall be supplied together with the number plates, in stages. Each lot of supplied number plates shall contain thermotransformer layer/tape (for 2500000 plates, 3000 items of thermotransformer layer/tape in total) which will be enough for final thermal processing of the whole lot of supplied number plates.

| Technical characteristics of the hermotransformer layer/tape: |  |
| :---: | :---: |
| Sizes | 305 m X 240 mm |
| Goods type | 25 mm internal diameter roll |
| Color | Black, white or red |
| Density | $1.3 \mathrm{~g} / \mathrm{cm}^{3}, 20^{\circ} \mathrm{C}$ |
| Solubility in water | $20^{\circ} \mathrm{C} \mathrm{practically} \mathrm{insoluble}$ |
| Impact on human health | Shall not have any impact |
| Storage conditions | Standard |
| Cemperature of thermal appliance on number plate | $180-215^{\circ} \mathrm{C}$ |
| Welding temperature | At least $220^{\circ} \mathrm{C}$ |
| Ignition temperature | At least $350^{\circ} \mathrm{C}$ |

### 2.3.8. Packing of number plates:

- The goods shall be packaged in such a way as to ensure its protection against mechanical and chemical damages during transportation and storage.


### 2.3.9. Additional requirements

- The bidder shall - during the term of delivery of the first lot of goods - submit the results of tests relevant to the conditions envisaged by the table contained in the clause 2.3 .2 (characteristics of number plate alloy and mechanical features) for the goods envisaged by the clauses 2.3.1.1 and 2.3.1.2 and also the testing results (along with the tested samples) on compliance with the ISO 7591 requirements regarding photometric and pherometric characteristics of the light reflecting tape envisaged by the clause 2.3 .3 of the annex to the tender documentation, which shall be conducted by the laboratory with European accreditation after the announcement of this tender date (the bidder shall present the documents asserting the accreditation of the laboratory).


## Note:

- In case, if buyer casts doubt on the compliance of the technical charactiristics of the goods (including thermotransformer layer/tape) with the technical charastiristics envisaged by the tender docunmentation the buyer shall be entitled to conduct forensuic and/or laboratory examination of the goods at any stage of its delivery as well as throughout the guarantee period in order to identify the compliance above.
- Samples of number plates shall be introduced at the following address of the buyer: Rustavi, $21{ }^{\mathrm{th}} \mathrm{km}$ of Tbilisi-Red Bridge highway.

| Annex N2 - Price |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| \# | Name of subject of procurement | Technical and quality data of the good (with indication of a manufacturer and the country of origin) | Amount (item) | Unit price | Total price | Guarantee period | Term of delivery | Place of delivery |
| 1 | Aluminum plates for production of number plates |  | 2500000 |  |  | The guarantee period for the number plates shall be at least 5 (five) years while in case of a thermal transformer it shall be at least 2 (two) years. |  |  |
| Sum total: |  |  |  |  | GEL or a crrency requested by a supplier |  |  |  |

(Amount in digits and words)

