



**TECHNICAL SPECIFICATIONS:**

- 1- **Description and Extent:** Glass beads is described as materials after paints, thermoplastics, cold application plastics and other applications which are applied as liquid form and on the surfaces of other marking products on the roads. Glass beads are transparent and spherical sending the light back to the driver in order to provide night visibility of the road markings. Material needs to be in conformity with the TS EN 1423 April 2003 and TS EN 1423/A1 March 2006.
- 2- **Appearance:** Glass beads should be transparent, clean, colourless, smooth surface and spherical. Any of the glass beads should not have cracks or broken. Any other material should not be included in glass beads for any reason.
- 3- **Ratio of Bead Size:** Bead size of glass beads is determined as specified TS EN 1423, ISO 565-R 40/3 series metal wire mesh, round-shaped, square mesh test sieve. Cumulative % by mass of glass beads retained by a sieve needs to be appropriate for the following gradation.

ISO 565 R 40/3 siev, µm	Cumulative Mass %
850	0-2
710	0-10
600	10-30
425	30-55
300	55-80
180	95-100

- 4- **Refractive Index of The Glass:** Refractive index of the glass (n) needs to be in conformity with Class A:  $n / 1.5$  when tested according to TS EN 1423 EKA.
- 5- **Chemical Resistance:** There should not be any haze or dulling on the surfaces of the glass beads when the enduring test is done according to TS EN 1423 Appendix B when they have contact with any of the followings;  
water,  
hydrochloric acid,  
calcium chloride,  
sodium sulphide.
- 6- **Humidity- Proof Coating:** In order to prove whether there is humidity proof coating on the surface of the glass beads or not, they should be tested according to TS EN 1423 EK Appendix E and % 80 of the beads needs to pass this level.

**PACKAGING AND DELIVERY :** Packaging of the glass beads should meet the following conditions against to the humidity and damages.



- 1- On condition that glass beads are kept for a year in our stocks under normal circumstances; they will be put in polythelen bag min. 250 µm thickness and the bag will be closed by press with electrical heating system so that it does not take air and open by itself. Pressed polythelen bag will be put in jute bag 14,5 ounce and out of packaging will be closed again.

Thickness of polythelen bag is accepted as 125 micron. But in this case, there needs to be canvas bag made of 14,5 ounce jute at the outest part and there should be resistant private paper between them. When the suggested bag 25kg falls from 3 meter height to the tough ground, any material of the bag should not have any physical change such as outbreak, split etc.

The contractor should get the confirmation of the management by presenting detailed information about different packaging, features are stated in the technical specification, and minimum 3 bags filled with glass bead 25kg and minimum 2 free bags.

- 1.1 Each of the bag should have 25kg- glass bead. The product will be received as per net weight.
- 1.2 Bags of glass bead should be delivered as tightly packed with steel rim strip in a manner of resistant to strain which will occur during the transportation and as stacked on wooden pallets ( max 40 pcs on each pallet).
- 1.3 The pallets should have right dimensions so that 2 pallets can be put in trailer and they should have 5cm distance from tailer to the edge. The contractor should start the production after the confirmation of the management on dimension and shape of the pallets stated in the Technical Specification.

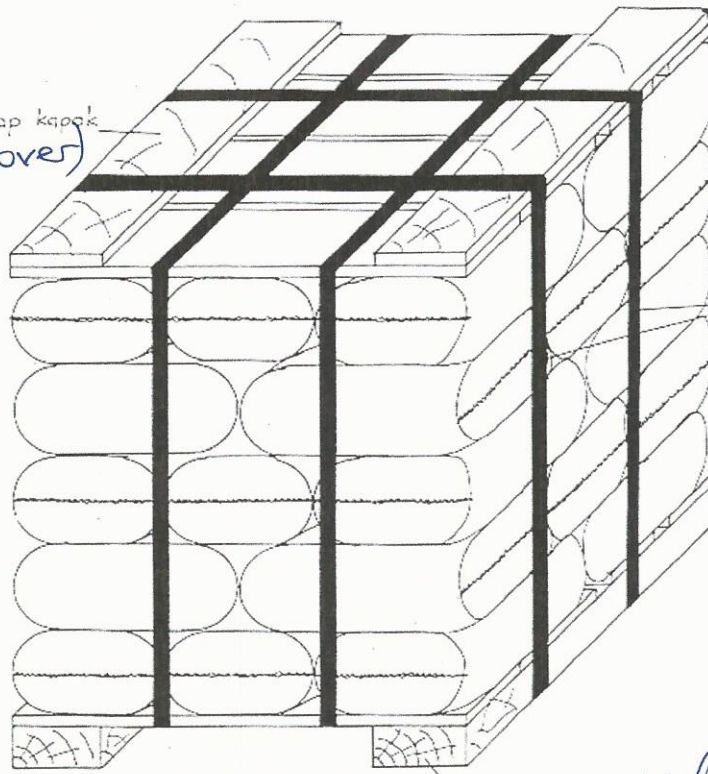
Wooden pallets should be produced in order that they can be carried by fork-lifts.

Pallets of glass beads should be streched with nylon minimum 500micron to avoid humidty and clumping.

The contractor Company will be responsible for downloading of the product at the delivery place.

- 1.4 On the bag of glass beads name of the product, quantity, production date, producer and Ministry of Road and Transportation should be written.
- 1.5 The contractor will submit the list of the goods produced as per production date to the management. Production date – mixed products should not be on a pallet and there should be a production date label on the outer part of the pallet which can be noticed from 2 meter away.

Ahşap kapak  
(Wooden cover)



çelik kısıc  
(Steel strap)

Ahşap palet  
(Wooden Pallet)



Langfang Olan Glass Beads Co., Ltd

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