



China Array Plastics LLC

Injection Molders of High Performance Thermoplastics

The Clock Tower Building
75 Church Street
Pittsfield, MA 01201 USA
Phone: 413-499-9890
Fax: 917-591-6511
E-mail: chinaarray@gmail.com

Zhuankou Industrial Park, Building #A
Wuhan Economic & Technological Zone
Wuhan, Hubei Province, China 430056
Phone: (86)-27-84296090
Fax: (86)-27-84296090
E-mail: liqinren@gmail.com

*Application: Camera Dome for Video Monitoring Systems
Optical Molding*

Material: Polycarbonate (PC)



Camera Dome Highlights China Array Plastics' Capabilities as Top Molder of Optical Quality Components for Industrial Lighting and Automotive Aftermarket

China Array introduces a high-clarity and near-optical quality camera dome for indoor and outdoor surveillance cameras. Molded of super-tough Lexan* 143R-111 resin from SABIC Innovative Plastics, the dome provides a weatherproof and distortion free enclosure to house a CCD camera for remote viewing

Lexan 143R-111 resin was chosen for this application for its toughness, clarity, and resistance to yellowing, making it a natural choice to withstand the severe environmental conditions to which the camera domes are exposed on a daily basis. For added protection, the domes are treated with a protective coating of polysiloxane (silicone) hard coating giving them a hard, glass-like surface. The hard coating is also loaded with UV absorbers to further protect against haze and yellowing.

The optical quality of camera domes was achieved using a mold of special alloy steel known for its uniform grain and stability during hardening. The hemispherical shape of the mold required careful cutting and polishing to achieve a low Ra surface smoothness, free of waviness that might cause optical distortion. SABIC Innovative Plastics' Lexan 143R-111 resin, a water-white, UV resistant grade of polycarbonate (PC), provided the required high-performance properties: glass-clear transparency, high-gloss, and excellent optical clarity. Lexan 143R-111 resin is also highly resistant to direct sunlight, heat, rain, road dust, and extreme cold.

Molding optical parts requires high temperature capabilities to ensure that the resin is completely dried and the parts can be molded with low stress. This is critical to minimizing birefringence – double refraction of light – that causes visual distortion. Using a proven, high-performance, optical quality material like Lexan resin further ensures success.

The part design incorporates a unique mechanical interlock for mounting, and is sealed with a weatherproof gasket. Each unit is secured in place by a single screw.

** Lexan is a trademark of SABIC Innovative Plastics.*