

Reflective film grade selector

ASTM D4956 types against EN 12899-1 classes and GOST practice, with service life and the market where each grade is normally specified.

GRADE (ASTM)	CONSTRUCTION	SERVICE LIFE	WHERE SPECIFIED	COST INDEX
Type I	Glass bead, engineering	5–7 yrs	Rural and low-volume roads, temporary works	100
Type II	Super-engineering bead	7–10 yrs	Legacy US municipal specifications	120
Type III	High-intensity bead	7–10 yrs	Regulatory signs, secondary roads	150
Type IV	Microprismatic	10–12 yrs	US highway work, GCC arterial roads	200
Type VIII	Microprismatic, higher efficiency	10–12 yrs	GCC and Asian highway programmes	250
Type IX	Microprismatic, very high intensity	12+ yrs	Overhead and gantry signs, wide angle	280
Type XI	Microprismatic, highest grade	12–15 yrs	Gulf motorways, tunnels, prestige work	330
RA1 / RA2 / RA3	EN 12899-1 performance classes	Class-dependent	European tenders; ask for the EN test report, not the ASTM one	—
GOST types	Defined by application	Class-dependent	Russia, Kazakhstan, Uzbekistan and neighbours	—

The upgrade usually pays. Film is a fifth to a third of the finished sign. Moving from Type I to Type IV adds roughly half to the film cost and perhaps 12–18% to the sign, while roughly doubling the interval before replacement. The exception is a genuinely temporary installation, or a market where the sign will be stolen before it fades.

Cost index is indicative, normalised to Type I = 100 per square metre of film. Service life is the manufacturer’s durability class, not a warranty — read the warranty separately, it is usually shorter. Photometric values govern; obtain them from the standard, not from a supplier’s brochure.