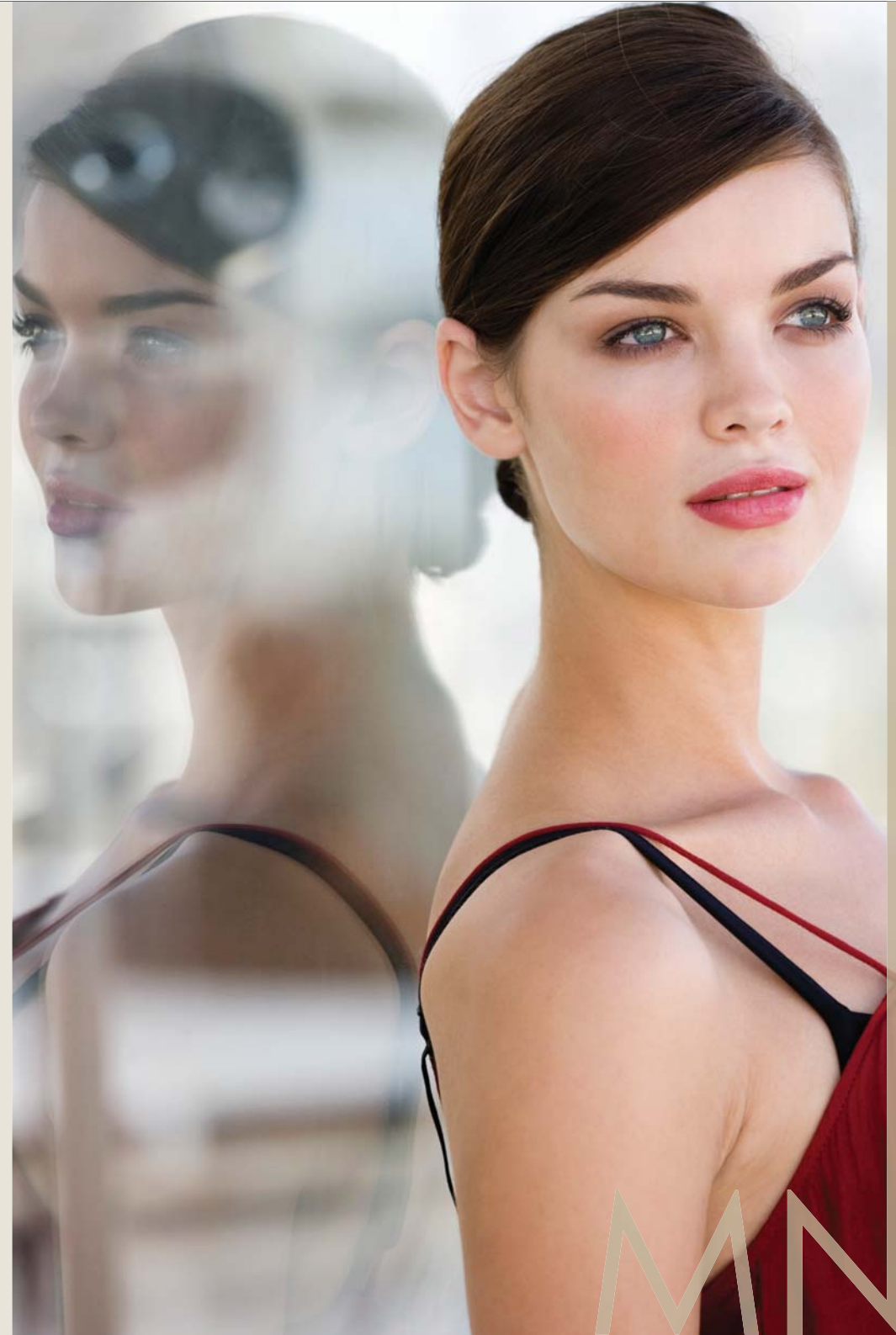




MIROX
NEW
GENERATION
ECOLOGICAL –
ENVIRONMENTALLY
FRIENDLY
MIRROR



AGC AGC Flat Glass Asia Pacific Pte Ltd

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M N G E
MIROX NEW GENERATION ECOLOGICAL MIRROR

MIROX NEW GENERATION ECOLOGICAL – ENVIRONMENTALLY FRIENDLY MIRROR

.....
Mirox New Generation Ecological (MNGE) is a high quality and high resistant mirror that prevails traditional mirror and easily exceeds the most stringent standards.
.....



MNGE

MIROX NEW GENERATION ECOLOGICAL MIRROR

MANUFACTURING PROCESS

.....

Mirox New Generation Ecological (MNGE) -
Quality Perfection & Environmental Protection

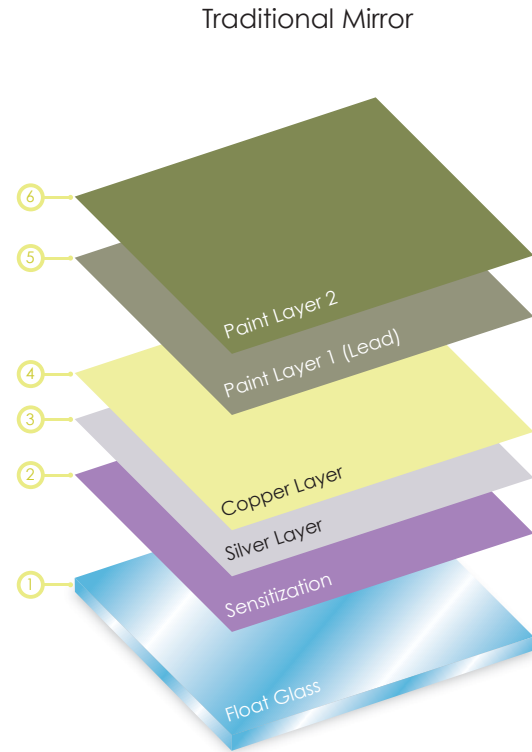
AGC's patented manufacturing process ensures that Mirox New Generation Ecological (MNGE) offers superior performance in terms of quality, resistance and ecology. MNGE mirrors reflect our Research Centre's ongoing quest for innovation and significant improvement.

These products, available exclusively from AGC, stand out for:

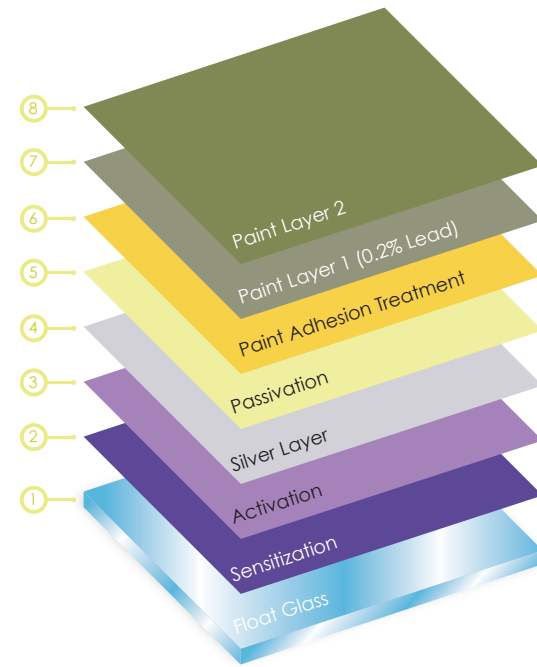
- their copper-free metal coatings
- the lead-free* protective paints used
- their ability to resist chemical damage

** 0.2% lead present*

OVERVIEW OF TRADITIONAL AND MNGE MIRRORS



Mirox New Generation Ecological Mirror (MNGE)



* Activation treatment to affix the silver coating to the glass
 * Passivation protects the silver from oxidation

Copper + lead present

- Copper removed
- Lead content reduced significantly

Resistance to corrosion:
Average

Excellent
(green-coloured protective paint on the rear of the mirror)

Resistance to scratches:
Average

Average

Adhesion:
Adhesive tapes

Glues, silicones and adhesive tapes

SUMMARY OF PERFORMANCE AND TECHNICAL PROPERTIES

Durability of MNGE is determined by several accelerated ageing tests in compliance to EN 1036 (European standard). Summary of test results are presented in the following table :

		EN 1036 standard	Traditional Mirror	Mirox New Generation Ecological (MNGE)
Behaviour	CASS Test* ISO 9227	Maximum edge corrosion (mm) Number of Spots (number/dm ²)	2.5 2 < 3mm 3 < 0.3 mm	0.5 ≤ 1 ≤ 1
	Neutral salt spray test* ISO 9227	Maximum edge corrosion (mm) Number of Spots (number/dm ²)	1.5 2 < 3mm 3 < 0.3 mm	0.2 ≤ 1 ≤ 1
	Condensation water test ISO 9227	Maximum edge corrosion (mm) Number of Spots (number/dm ²)	0.2 2 < 3 mm 1 < 0.3 mm	0 ≤ 1 ≤ 1
Resistance to Adhesives	Oxime		YES	YES
	Alcoxy		NO	YES
	Rubber (tapes)		NO	NO
	MS polymer		NO	NO
	Acetic Acid		NO	NO
Ecology	Copper protection layer		YES	NO
	Lead content in the paint		> 8%	< 0.2%
Cleaning Products	Resistance to ammonia		1 day	> 7 days
Shaping	Edge grinding		YES	YES
	Brilliant cut		YES	YES
	Grounding		YES	YES
	Drilling		YES	YES
	Inserts and notches		YES	YES
Safety	Safe film		YES	YES
	PVB laminated		NO	NO
	Toughened		NO	NO
Adhesives for mounting	Compatibility with alcoxy-based silicones and tapes		NO	YES
	Compatibility with oxime-based silicones and tape		YES	YES
	Compatibility with acetic silicones		NO	NO

* Neutral salt spray test and condensation test are conducted for 480 hrs (20 days). Edge corrosion is measured on all 4 edges of mirror samples.

* CASS test is conducted for 120 hrs (5 days). Edge corrosion is measured on 2 vertical edges of mirror samples.

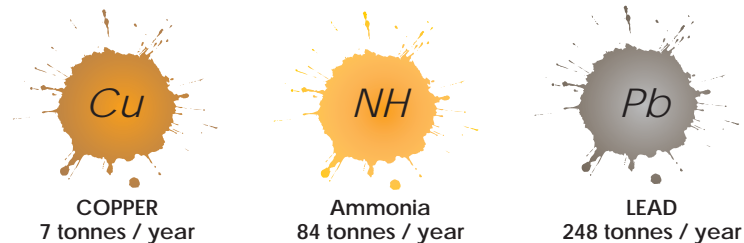
BENEFITS

- **Unparalleled resistance** to corrosion and ageing, MNGE lasts **three times longer** than traditional mirrors.
- **Enhanced resistance** to harsh cleaning products, MNGE is **seven times** more resistant than traditional mirrors.
- MNGE is **copper free** and hence reduces the development of brownish spots and stains over time.
- Manufactured using environmentally friendly process, MNGE **protects our environment** assertively.

ENVIRONMENTAL PROTECTION

- Mirror production results in a high concentration of ammonia in the effluent from the silvering line. Some 90% of this ammonia comes from the coppering process.
- Copper free mirrors help processors to care for the environment, since the effluent from shaping operations is totally free of copper.
- Given the increased stringency of both national and international environmental standards, MNGE mirrors are clearly a safe investment.

ELIMINATION OF TOXIC PRODUCTS



Elimination in the amount of toxic products produced based on an estimated 20,000,000 m²/year

RANGE

	3, 4, 5, 6, 8	MNGE available in SAFE	Standard Size (cm)
Clear	+ + + + +	+	321 x 225
Clearvision (extra clear)*	+ + + +	+	
Bronze	+ + + +	+	
Grey	+ + + +	+	
Privable	+ +	+	
Green	+ +	+	
Mirold Morena	+ +		

For SAFE enhanced versions, a polypropylene film is applied to the back of the mirror as a safety measure. In case of glass breakage, the fragments adhere to the plastic film and do not break up, preventing injury. When impacted on the glass side, the Safe coating complies with the requirements of BSI 6206, EN 12600 and ANSI z 97.1 standards.

* **Clearvision reflects a clearer image with minimal greenish tint.**

** Please check with AGC for other possible stock sizes.

APPLICATIONS

- Interior
 - Furniture, partitions, tables, shelves, fixed and sliding doors for cupboards and wardrobes, display cases and glass boxes.
 - Wall cladding

Mirrors do not last a lifetime due to their delicate and sensitive properties. Proper design (i.e. framing etc), installation and handling methods can reduce deterioration and prolong lifespan of mirrors. For proper installation and processing of mirrors, please refer to AGC Mirror Installation and Handling guide.

