

NOF[®]-ALLOY KA200



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1 Introduction

NOF[®]-ALLOY KA200 is an anti-scratch improver which is exclusively manufactured by NOF CORPORATION based on the unique NOF technology.

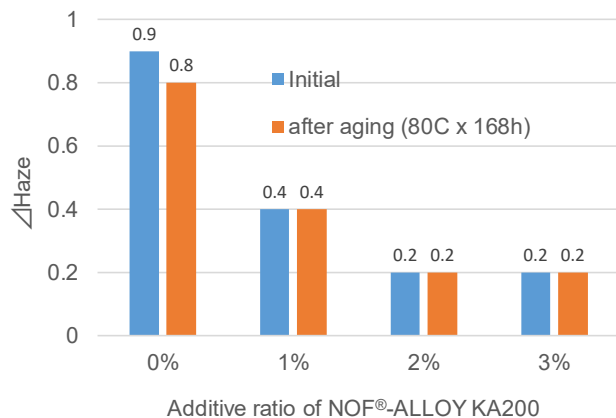
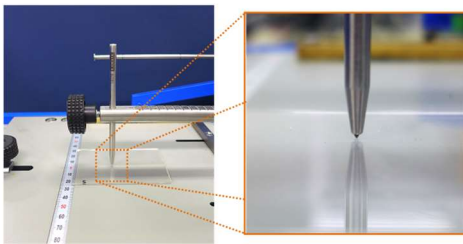
NOF[®]-ALLOY KA200 can especially improve both anti-scratch and anti-mar properties on Polymethylmethacrylate (hereafter PMMA) while keeping some mechanical properties as well as transparency of PMMA.

2 Improvement of anti-scratch property

NOF[®]-ALLOY KA200 can improve anti-scratch property on PMMA even with 1% additive ratio.

【Cross cut test】

The scratch property was evaluated with Δ Haze of PMMA after cross cut test (load: 8N, test speed: 1000mm/min)

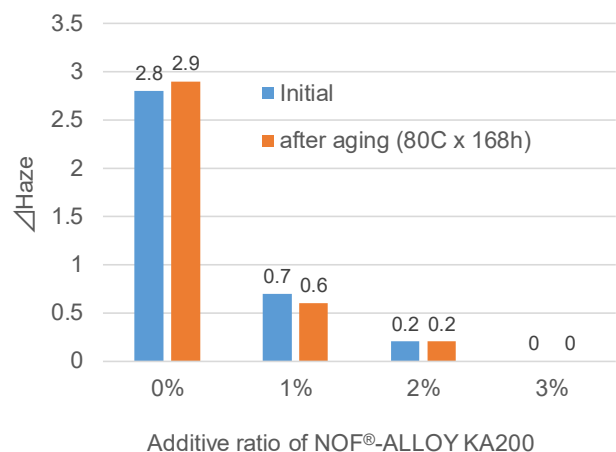
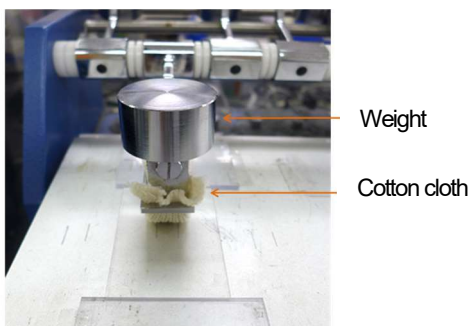


3 Improvement of anti-mar property

NOF[®]-ALLOY KA200 can improve anti-mar property on PMMA even with 1% additive ratio and can completely avoid mar mark with 3% additive ratio.

【mar test】

The scratch property was evaluated with Δ Haze of PMMA after mar test (100 times back and forth with cotton cloth with 1kg load and 200mm/sec test speed)



4 Mechanical property

NOF®-ALLOY KA200 doesn't affect each mechanical property of PMMA while keeping the transparency even after added into PMMA.

Table. Evaluation of mechanical property of PMMA along with NOF®-ALLOY KA200

Item		Test condition	Additive ratio of NOF®-ALLOY KA200			
			0%	1%	2%	3%
Transparency	Haze(%)	ISO 14782	1.1	1.3	1.7	1.9
Tensile	Strength(MPa)	ISO 527-1 (Tensile speed : 50mm/min)	85	83	82	82
	Elongation(%)		9	5	6	9
Flexural	Strength(MPa)	ISO 178 (Flexural speed : 2mm/min)	120	120	110	110
	Modulus(MPa)		3,200	3,170	3,090	3,050
Izod impact(kJ/m ²)		ISO 180 (23C with notch)	4	4	4	4
Heat Deflection Temperature (C)		ISO 75 (Flexural stress : 1.8MPa)	84	83	81	80
Molding shrinkage ratio	MD ¹⁾ (%)	Original test ²⁾	0.1	0.1	0.1	0.1
	TD ¹⁾ (%)		0.1	0.1	0.1	0.1

1) MD: machine direction, TD: transverse direction

2) Molding shrinkage ratio was measured with the test plaque (80mm × 55mm × 2mm).

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