

Scratch-resistance Improver

NOF[®]-ALLOY KA832

1 NOFALLOY[®] KA832

NOFALLOY[®] KA832 is an innovative improver that improves a scratch resistance on the part surface molded from polypropylene, polyolefin elastomer, polystyrene elastomer, and cross-Linked Rubber, etc.

2 Examples of Actual application of NOFALLOY[®] KA832

NOFALLOY[®] KA832 is used for the improvement of scratch resistance for the automotive exterior materials (Bumpers, Laces) and the interior materials (Instrumental panels, Shift knobs, and Pillars), etc. Besides, NOFALLOY[®] KA832 is useful for the improvement of scratch resistance of the cross-Linked Rubber.

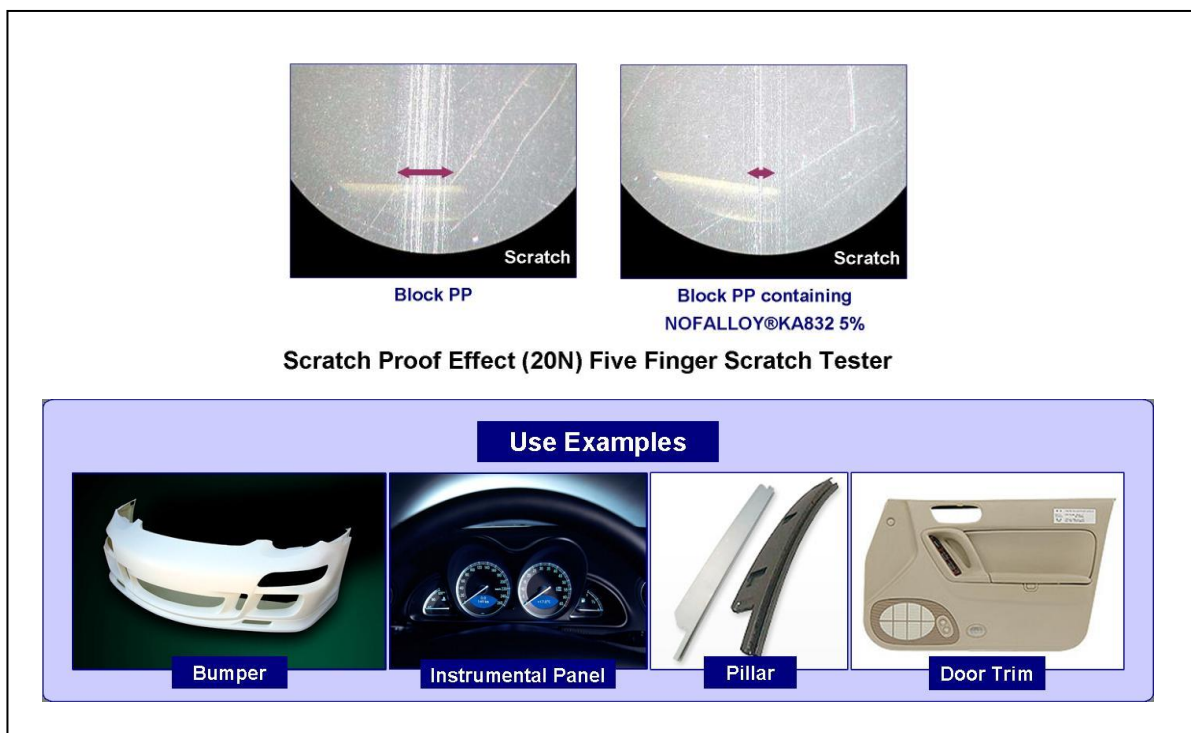


Fig. 1. Effects and examples of actual application NOFALLOY[®] KA832 as Additives

3 Performances of NOFALLOY[®] KA832

The following three great performances will be obtained when NOFALLOY[®] KA832 is used as additives cross-Linked Rubber.

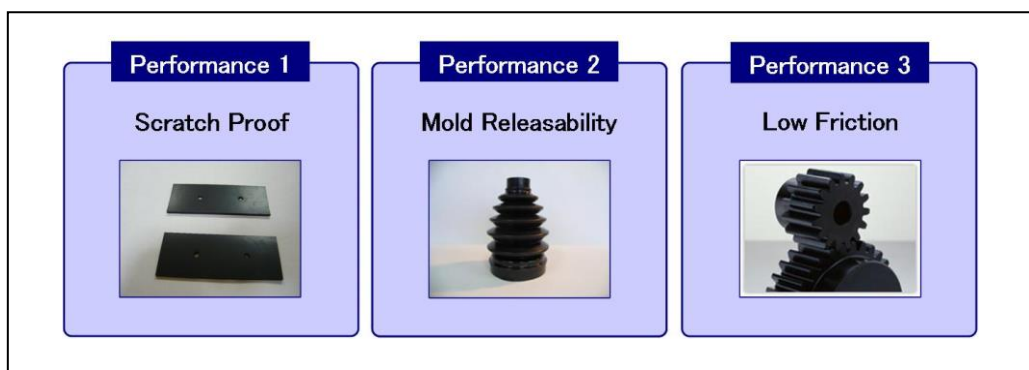


Fig. 2. Three Advantages of NOFALLOY[®] KA832

4 The Scratch proof Improvement of TPO by NOFALLOY®KA832

The Scratch proof improvement when NOFALLOY®KA832 is added to TPO is as follows.

Table 1. The Scratch proof improvement of TPO Rubber by NOFALLOY® KA832

No.	NOFALLOY®KA832 (wt)	Five Finger Scratch Test ²⁾ N	Manaf Wear-Out Exam. ³⁾	Coefficient of dynamic friction	Hardness (JIS A)
			The Scratch proof ⁴⁾		
			Exelent 4~1 Poor		
TPO ¹⁾	—	0.6	1	0.83	85
Sample 1 ¹⁾	5	2	3	0.25	86

1)TPO/NOFALLOY®KA832 = 100~95/0~5

2) Evaluation method of Five Finger Scratch Test—The maximum load of not made white after the test(Test Load:0.6, 2, 3, 5, 10 N)

3) The Condition of Manaf Wear-Out Exam.—Vertical Load 700g × 30 times

4) The Point of Manaf Wear-Out Exam.—4: No Scratch Mark on Surface, 3: A few Scratch Mark on Surface, 2: A lot of scratch Mark on Surface,

1: A lot of scratch Mark on Surface with Abrasion

5 The Scratch proof Improvement of EPDM Rubber by NOFALLOY®KA832

The Scratch proof improvement when NOFALLOY®KA832 is added to EPDM is as follows.

Table 2. The Scratch proof improvement of EPDM Rubber by NOFALLOY® KA832

No.	NOFALLOY®KA832 (wt)	Manaf Wear-Out Exam. ⁶⁾				Coefficient of dynamic friction	Hardness (JIS Sh A)
		The Scratch proof ⁷⁾ Excellent 4~1 Poor	Luster				
			Before	After	Change Rate(%)		
EPDM ⁵⁾	—	1	63	50	-20.6	1.60	63
Sample 2 ⁵⁾	2	3	59	58	-1.7	1.38	62
Sample 3 ⁵⁾	5	4	57	56	-1.8	1.07	62

5)EPDM/NOFALLOY®KA832/HAF Carbon/Stearic acid/Zinc Oxide/Dicumyl Peroxide = 100~95/0~5/40/1/5/6.75

6) The Condition of Manaf Wear-Out Exam.—Vertical Load 700g × 30 times

7) The Point of Manaf Wear-Out Exam.—4: No Scratch Mark on Surface, 3: A few Scratch Mark on Surface, 2: A lot of scratch Mark on Surface,

1: A lot of scratch Mark on Surface with Abrasion

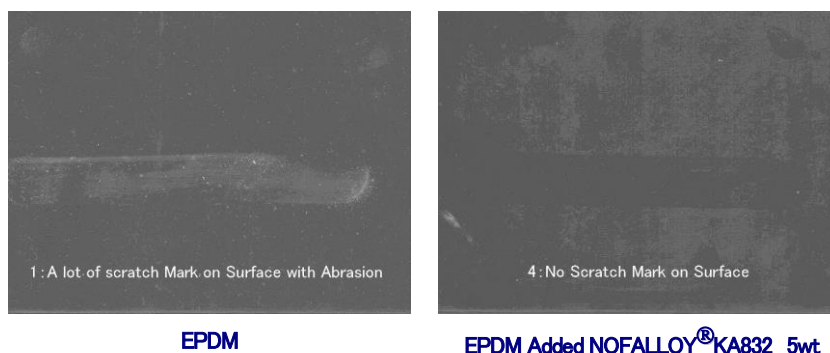


Fig. 3. Scratch Proof Improvement of EPDM Rubber by NOFALLOY®KA832

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