August 20, 2006

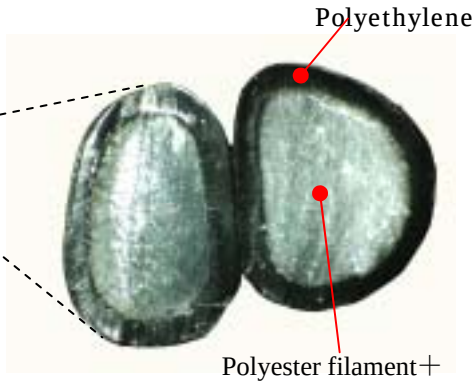
MATRiX（MRX）Technical data

1．Appearance

Netting Specification　　MATRiX—H　2ply　100 ㎜

Fig 1. MATRiX—H　External View

Fig 2. Composition of net twine



2．Material

Name of material：　Compose T—2.05×1.5

“Compose” is composite material produced by “Ube-Nitto Kasei Co., Ltd.” and composed as follow.

Core	Polyester　1100T×13ply Resin　　Thermosetting resin
Cover	Polyethylene（LDPE）tube

3．Netting physicality

（1）Netting physicality

		Measurement value	Recital
Twine diameter		3.8～4 ㎜φ	Nominal:3.8 ㎜ H220T　200～220ply
Twine strength (after thermosetting) Breaking strength	Strength	1,302N（132.8kgf）	H220T　200ply Approx. 160kgf
	Elongation	16.7～20.4%	Approx. 70～80% of H
Specific gravity		1.11	
100G1m reference weight		1,900g	

（３）Abrasion resistance

① Grinder abrasion test

Surface polyethylene was worn with about 1,000 revolutions and can see the PET of the core. After that, abrasion does not advance, strength decrease is little. It is thought that PET of the core is stiffened in thermosetting resin and is hard to be worn.

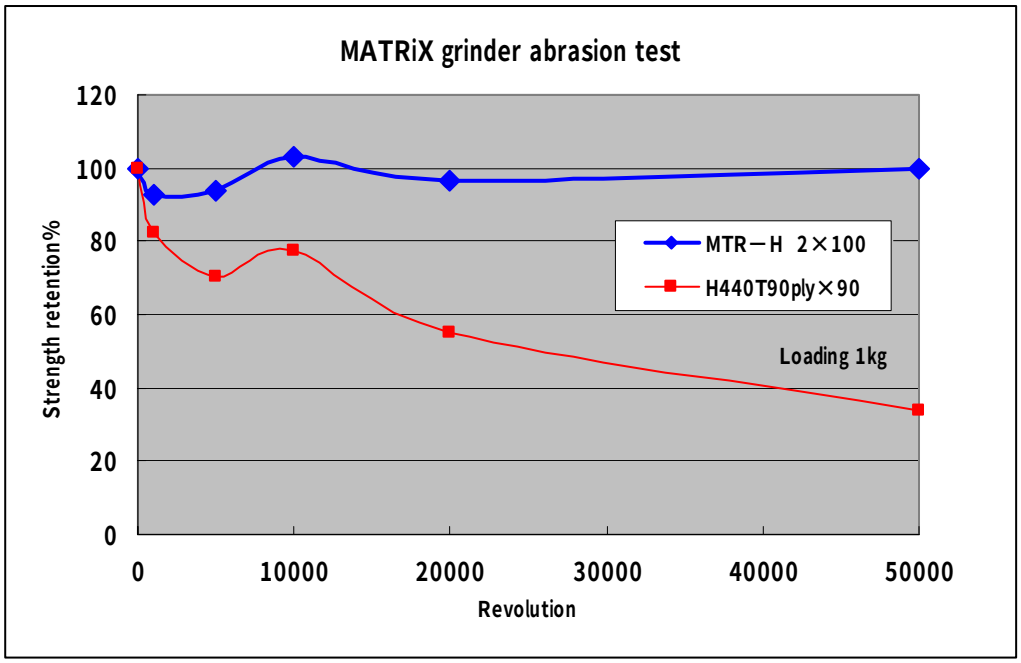


Fig 3.MTR After grinder abrasion

Fig 4.H After grinder abrasion

②Repetition opening and closing test of knots

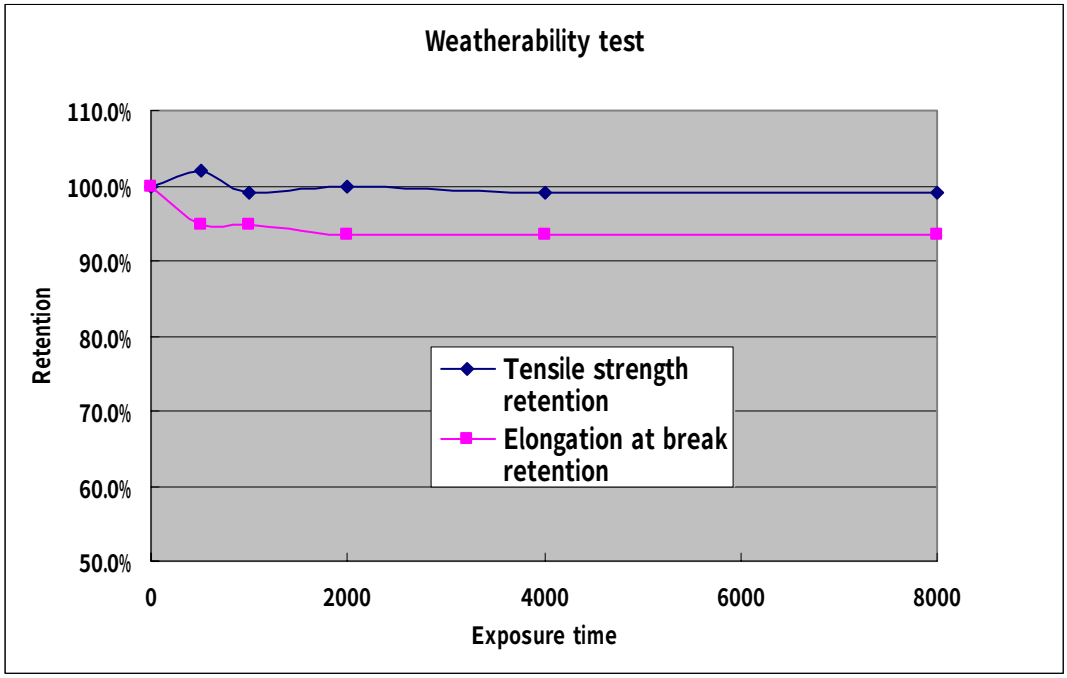
Performing about 7,000 times opening and closing test repeatedly and examine abrasion. Polyethylene appeared whit power but the abrasion does not reach it to the PET of the core.

Fig 5.
After repetition opening and
Closing (Macro picture)

（4）Weatherability test （Ube-Nitto Kasei Co., Ltd .）

Sunshine weather meter Weatherability test

Exposure time	0	500	1000	2000	4000	8000
Tensile strength (N)	1362	1388	1349	1360	1348	1351
Tensile strength retention	100.0%	101.9%	99.0%	99.9%	99.0%	99.2%
Elongation at break (%)	26.4	25.0	25.0	24.7	24.7	24.7
Elongation at break retention	100.0%	94.7%	94.7%	93.6%	93.6%	93.6%
appearance		No change	No change	No change	No change Edge turned yellow	No change Edge turned yellow
How to test：JIS L 0842 Compliance Black Panel Temperature ：63±3℃ Spray cycle：12mins / 60mins						



（5）Chemical proof Ube-Nitto Kasei Co., Ltd

	pH	Strength retention (%)
Solution of Hydrochioricum Acid	1.0	87
	2.5	93
	4.0	98
	6.0	94
Solution of sulfuric Acid	1.0	95
	2.5	90
	4.0	93
	6.0	90
Solution of Sodium Hydroxide	10.0	94
	12.0	100
	14.0	97

Solution of Calcium Hydroxide	10.0	100
	12.0	97
room temperature （approx.20℃）,soak in listed above solutions for 30 days, measure strength.		

（6）Elution Test　Ube-Nitto Kasei Co., Ltd

Test items	Elution concentration	Elution lower limits
Di-n-butyl phthalate	Not eluted	0.4μg／L
diethyhexyl phthalate	Not eluted	0.05μg／L
Nonyphenol	Not eluted	0.08μg／L
Bisphenol A	Not eluted	0.01μg／L
4－teri－butylphenol	Not eluted	0.01μg／L
4－teri－pentylphenol	Not eluted	0.01μg／L
4－n－pentylphenol	Not eluted	0.01μg／L

（7）Burning Test　Ube-Nitto Kasei Co., Ltd

Test item	Test result	Detection higher limits
Hydrogen Chloride（HCl）　(mg/g)	Not dected	0.1
Oxide of sulfer（SO_X）　(SO_2mg/g)	Not dected	0.1
Nitrogen oxide（NO_X）(NO_2mg/g)	Not dected	0.5
Hydrocyanic acid（HCN）　(mg/g)	Not dected	0.05
Ammonia（NH_3）　(mg/g)	Not dected	0.1
Carbon monoxi　（CO）　(mg/g)	81	—
Carbon dioxide（CO_2）　(mg/g)	740	—
Methane（CH_4）　(mg/g)	29	—
Ethane（C_2H_6）　(mg/g)	5.3	—
Propane（C_3H_8）　(mg/g)	1.0	—
Ethylene　（C_2H_4）　(mg/g)	60	—
Acetylene（C_2H_2）　(mg/g)	6.2	—
Propylene（C_3H_6）　(mg/g)	29	—
Benzene　(mg/g)	27	—
Toluene　(mg/g)	7.0	—