



The “Minus Ion” effect has been known for many years. In recent years, it has been applied by the household electronic equipment industry, architectural industry and the textile industry.

ITOFINISH LJI was developed as an alternative to radiation type products.

What is the “Minus ion”?

Negative ions (minus ion) exist naturally and are abundant in rural areas such as forests and particularly areas with an abundance of water such as streams and waterfalls.

The positive revitalising feeling generally found when standing close to waterfalls etc is attributed to the increased amounts of negative ions in the air. Conversely, concentrations of electrical equipment such as in the household or office environment lead to increased positive ion concentrations and can have the effect of increasing tiredness/fatigue.

It is said that three kinds of minus ions exist in atmosphere. ITOFINISH LJI utilises natural ceramics to produce negative ions.

- 1) Minus ion in general chemistry
Nitrogen oxide, sulphur oxide or carbon dioxide combine with atmospheric moisture and can be converted into positive and negative ions.
- 2) High voltage plasma electrical discharge minus ion
Electrical discharge minus ion generation is used in household electronic equipment products such as air conditioners. However this produces ozone and is one of the largest issues faced by the household electronic equipment industry.
- 3) Natural ceramic (Mineral : Deposit)
Hydroxyl minus ions ($H_3O_2^-$) produced from ceramics. Negative ions are produced when moisture comes into contact with the special porous ceramics. Through agitation the water molecules are broken down to produce negative ions..

PROPERTIES

- **Appearance** : Yellow brown-ash yellow dispersed solution
- **Main Ingredient** : Natural ceramics mixed substances and dispersing agent
- **Ionic Character** : Weakly anionic
- **Solubility** : Add after dispersed in a small amount of cold water

DISCLAIMER

The information herein offered is based on the best of our knowledge at present. However, we are not able to guarantee these matters, as the result of application may vary according to conditions adopted. Preliminary tests are, therefore, recommended in all cases. Please refer to MSDS regarding handling of the products.

APPLICATION

In Padding:

- **ITOFINISH LJI** : 30 - 50 g/l
- **ITOBINDER AG** : 30 g/l
- **ITOSILICONE LJ88** : 10-20g/l (As required for handle)
- **Drying** : 120°C for 1 - 2 min.
- **Curing** : 160°C for 1 min

In Exhaustion

- **Not Applicable**

“Minus ion” Processing Agent “ITOFINISH LJI”

ITOFINISH LJI is made from a product obtained by pulverisation and dispersion of the natural ceramics.

ITOFINISH LJI’s minus ion generation is brought forth by physical stimulation.

The washing durability (as a combined use of ITOBINDER AG as a binder) is about 20 times of HL and 30 times of HL

MAGNACOLOURS[®]
IMAGINATION INK™





APPENDIX

Test Data

Material : Cotton broad 40S, T/C broad cloth (65/35)

Processing prescription and its result

ITOFINISH LJI	Water Treatment	3% Solution
ITOBINDER AG		3% Solution

Amount of minus ion (Ion/cc)

T/C Broad	Start	400-500	3000-3200
Cotton Broad	Start	400-500	3000-3200
	HL-10		3000-3200
	HL-20		3000-3200
	HL-30		1000-1400

Measures with air minus ion counter ITC-201A (Andes Electricity Co Ltd)

However, a minus ion is measured after physical stimulation is given.

Processing condition (Padding Treatment)

Squeezing rate	Cotton : 86% T/C : 78%
Dryness	At 110°C for 2 minutes
Heat treatment	At 160°C for 1 minute

Note :A minus ion content in a familiar place is as follows

Forest part	700 or more
Fountain (Shinjyuku in Tokyo)	780
Office Street from which wind is blown and got out	380
Basin of a waterfall (Position 10m away)	4730
Woodland region	1800

(Excerpt from the book written by Noboru Yamanoi "Health study of a minus ion")

