

ITOGUARD LJC6600

A FLUORINATED WATER OIL AND GREASE
RESISTANT AGENT FOR PAPERS



ITOGUARD LJC6600 is a new fluorinated oil and grease resistant agent for paper and paper board. ITOGUARD LJC6600 imparts excellent oil, grease and water resistance properties to paper and paper board.

PROPERTIES

- **Appearance** : Pale Yellow to Brown Liquid
- **Ionic Character** : Cationic
- **pH** : Acidic
- **Solubility** : Easily diluted in water
- **Solids content** : 20%
- **Viscosity** : less than 50mPa S
- **Specific Gravity (20°C)** : 1.1

APPLICATION

In External Sizing Method (size press, coating):

- **ITOGUARD LJC6600** : 2 - 8 %
- **PH** : less than 6.5
- **Drying** : 100 - 130°C

In Internal Sizing Method (wet end):

- **ITOGUARD LJC6600** : 0.5 - 1.2 % (as solid content)
- **PH** : 4.5-6.5
- **Drying** : 100 - 130°C

CHARACTERISTICS

1. Paper and paper board processed with ITOGUARD LJC6600 show excellent oil and grease resistance properties. ITOGUARD LJC6600 provides extended resistance to general fats, greases and oil such corn, soy and chicken oil.
2. Paper and paper board processed with ITOGUARD LJC6600 shows excellent oil and grease resistance properties against hot oils from fried or baked foods, such as French fries, fried chicken and pizza.
3. ITOGUARD LJC6600 can be applied to either an external sizing method (size press, coating) or an internal sizing method (wet end).
4. ITOGUARD LJC6600 is non-flammable.
5. ITOGUARD LJC6600 does not contain perfluorooctanoic acid (PFOA), longer chain length perfluorocarboxylic acids (PFCAs) or their precursors (below the detection limit). (longer chain length; Carbon number >8).
6. ITOGUARD LJC6600 is KOSHER, BFR and FDA Approved.

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.

MAGNACOLOURS[®]
IMAGINATION INK[™]



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APPENDIX

External Sizing Method

(1) Size Press	1	2	3	4
ITOGUARD LJC6600 (% in as received)	1.5	3.0	4.5	6.0
Poly vinyl alcohol (completely saponified type)	1.0	1.0	1.0	1.0
Total	100	100	100	100
Kit *1	6	6	8	8
Soy oil *2 (60°C x 2h)	NP	NP	NP	NP
Soy oil on the creased paper *3 (60°C x 24h)	NP	NP	NP	NP
Soy oil on the creased paper *4 (120°C x 24h)	NP	NP	NP	NP
Sizing degree *7	7 sec.	9 sec.	9 sec.	11 sec.

Processing conditions:

Test base paper:
Processing condition:
Drying condition:

Bleached kraft paper, non-sized paper, basic weight 40g/m²
Size press method wet pickup 65%
105°C x 50sec. (Cylinder type dryer)

(2) Coating	1	2	3
ITOGUARD LJC6600 (% in as received)	2.0	3.0	4.0
ITOSURF S28 (% in as received)	1.0	1.0	1.0
Total	100	100	100
Coating amount (solid g/m ²)	0.08	0.12	0.16
Kit *1	6-7	6-7	7-8
Soy oil *2 (60°C x 2h)	PP	NP	NP
Soy oil *5 (60°C x 24h)	P	PP	NP
Soy oil *6 (120°C x 24h)	P	PP	NP
Cobb120 *8	33	33	33

Processing conditions:

Test base paper:
Processing condition:
Wet application quantity:
Drying condition:
ITOSURF S28 wetting agent

One-side coated white cardboard, basic weight 260g/m², Cobb120 72
Coating method, bar coater No.5
20g/m²
105°C x 120 sec. (hot-air type dryer)

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Internal Sizing Method

(3) Wet End	1	2	3
ITOGUARD LJC6600 (Solid %; based on the dry pulp)	0.5	0.75	1.0
ITOFIX M80 (Solid %; based on the dry pulp)	0.1	0.1	0.1
Kit *1	5	7	7-8
Soy oil *2 (60°C x 2h)	NP	NP	NP
Soy oil on the creased paper *3 (60°C x 24h)	NP	NP	NP
Soy oil on creased paper *4 (120°C x 24h)	PP	NP	NP
Sizing degree *7	14 sec.	18 sec.	28 sec.

Processing conditions: Basic weight 50g/m², LBKP/NBKP=7/3, beating degree (c.s.f) 400ml
Drying condition: 100°C x 50sec. (cylinder dryer)
ITOFIX M80 fixing agent
Pulp slurry 3% → Churn for 3 minutes → ITOGUARD LJC6600 → Churn for 3 minutes → Papermaking → Press 0.5 mPa → Drying

Test Method

- *1: Kit method: TAPPI T 559 cm-02**
- *2: Oil drop method 1: Dropping the rest oil (0.1 ml) on the test paper, leave it at temperature of 60°C for 2 hours. The degree of oil penetration through the back side is visually observable.**
 - Criteria**
 - NP:** Does not penetrate through the back side.
 - PP:** Partially penetrates through the back side.
 - P:** Penetrated through the back side.
- *3: Oil drop method 2: The test paper is creased by a rubber roller (approx. 2kg). Dropping the test oil (0.1 ml) on the paper, and leave it at temperature of 60°C for 24 hours. The degree of oil penetration through the back side is visually observable.**
- *4: Oil drop method 3: The method is the same as that of *3 except the test temperature is 120°C.**
- *5: Oil drop method 4: The method is the same as that of *2 except the exposure time is 24 hours, rather than 2 hours.**
- *6: Oil drop method 5: The method is the same as that of *5 except the test temperature is 120°C.**
- *7: Sizing degree: JIS P 8122: 2004 Stockigt sizing method.**
- *8: Cobb method: JIS P 8140: 1998 Cobb method = TAPPI T 441om-98c (Cobb Test)**

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