



The color  
you can see everywhere is  
**Daihan Ink**

 **DAIHAN INK CO., LTD.**

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· This catalogue is printed on Samwha paper's "Rendezvous Natural" ([www.samwhapaper.com](http://www.samwhapaper.com))

· This catalogue is printed by "SolFree" Ink



Sheetfed  
Offset Ink

# SolFree

Application : Sheetfed Offset Printing

**SolFree** the first solvent free ink doesn't contain not only VOC but also heavy metal as well. It is definitely environment friendly product.



## Characteristics of SolFree, the Environmental Friendly Product

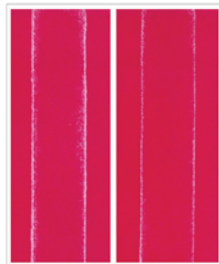
- Environment-Friendly Product Less than 0.1% of VOCs (volatile organic chemical compound)
- Good printing performance
- Good Rub Resistance
- Good Transfer to Stock (Broad stock)
- No Gloss Down, Dry Down, by Solvent Evaporation.

Properties	Yellow	Magenta	Cyan	Black	Equipment/Condition
Tack Value	6.0	7.0	8.0	6.5	Inkometer/200pm, 32°C
DM	36.5	36.0	36.5	35.0	Spreadmeter 60sec / 25°C
Laray(Viscosity)	155.0	215.0	210.0	180.0	Laray Viscometer / 25°C
Gloss	65	70	60	70	Gloss Meter / 60°
Drying	130	120	140	130	50°C oven (Min)
Rub Resistance	5	5	5	5	Abrasion Tester
Finesses of Grind	6Max	6Max	6Max	6Max	Grind Gage (2.5um-11MPa)

SE(4) ~ 30(Nec) ~ 10(Pow)

## SolFree TRANSFERRING PROPERTY

Test equipment : PRUBAU (high speed printing test equipment)



Left : General other ink / Right : SolFree Ink

Compared to other inks, SolFree contains more soy oil, but it has better performance under the condition of the same ink quantity using and the same printing



## SolFree RUB-RESISTANCE PROPERTY



Left : SolFree Ink / Right : General other ink

Test equipment : SUTHERLAND RUB TESTER

Condition : 4LB X 50Times X SPD3

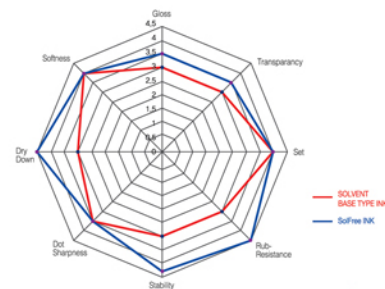
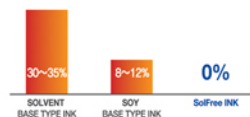
Compared to other inks, SolFree has harder film strength. And due to low evaporation (because of no solvent), it has better rub-resistance. (The prints in the left were tested one year later after printing)

## Character of SolFree

	Solvent type	SolFree
Gloss	3	3.5
Rub Resistance	3	4.5
Set	4	4
Transparency	3	3.5
Stability	3	4.3
Dot Sharpness	3.5	3.5
Dry Down	3	4.5
Softness	4	4

0=BAD, GOOD=5

## PERCENTAGE OF SOLVENT IN INK



- Packing : 1kg (normal, vacuum), 2.5kg vacuum, 5kg, 10kg, 20kg, 200kg

Sheetfed  
Offset Ink

# PLUS KLEENTEC

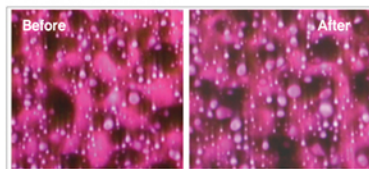
Application : Sheetfed Offset Printing

## Characteristics of PLUS KLEENTEC

- Premium high quality offset sheet-fed printing ink
- Excellent printing productivity
- Suitable for high speed printing
- Stability of long printing
- Wide range of fountain solution
- Superb dot reproduction
- High gloss
- Fast drying and quick settling time
- Easy control of water balance
- Soy Based Ink

Properties	Yellow	Magenta	Cyan	Black	Equipment/Condition
Tack Value	5.7	7.3	8.2	7.3	Inkometer/100g, 32°C
DM	37.0	34.5	34.5	36.0	Spreadometer / 25°C
Larry(Viscosity)	145.0	220.0	225.0	170.0	Larry Viscometer / 25°C
Gloss	58	63	55	85	Gloss Meter / 60°
Drying	200	220	180	180	50°C oven (Min)
Rub Resistance	4.5	4.5	4.5	4	Abrasion Tester
Finesness of Grind	4Max	4Max	4Max	4Max	Grind Gage (2.5µm-1µm)
					50(x) ~ 30(Med.) ~ 10(Pow)

## Improvement in Emulsification

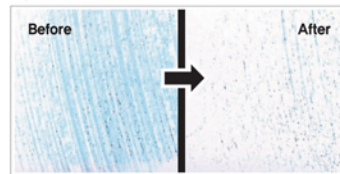


To prevent contamination by fountain solution, more stable pigment and materials have been used. This new formulation has attributed to improvement of printing performance.

We are  
exerting our efforts to create  
perfect Natural colors through  
various printing ink products.



## Improvement in Rub-Resistance



By using high quality of wax materials, Rub-Resistance has been improved. It boasts of wide range of application of printing substrate from coated art paper, snow white paper and to even woody / recycle paper.

## Resistances Table

Properties	Yellow	Magenta	Cyan	Black	Remark
Light Fastness	2-3	5	8	8	
Heat Resistance	4	4	5	5	
Acids Resistance	5	2	5	5	
Alkal Resistance	5	3	5	5	
Wax Bleeding	3	4	5	5	
Alcohol	5	4	5	5	
Wet Coating Resistance	4	4	5	4	

Light fastness values follow the Standard (1 ~ 8) / Other values go from 1 (poor) to 5 (good)



- Packing : 1kg (normal, vacuum), 2.5kg vacuum, 5kg, 10kg, 20kg, 200kg



Sheetfed  
Offset Ink

# UTR(ULTRA)

Application : Sheetfed Offset Printing

## Characteristics of ULTRA Revolution

- Reliable quality of offset sheetfed printing ink designed for wide range of paper
- Good printing performance
- Suitable for medium high speed printing
- Fast drying and quick setting time
- Easy control of water balance
- Soy Based Ink

Properties	Yellow	Magenta	Cyan	Black	Equipment/Condition
Tack Value	6.7	6.2	6.7	8	Inkometer400gpm, 32°C
DM	36.5	34.0	34.0	34.0	Spreadometer 60sec / 25°C
Laray(Viscosity)	150.0	225.0	240.0	190.0	Laray Viscometer / 25°C
Gloss	55	60	52	70	Gloss Meter / 60°
Drying	280	280	260	220	50°C OVEN (Min)
Rub Resistance	3.5	3.5	3.5	3	Abrasion Tester
Finesness of Grind	6Max	6Max	6Max	6Max	Grind Gage (2.5µm 1NPR)

SEK) → 30Med.) → 1(Poor)

## Resistances Table

Properties	Yellow	Magenta	Cyan	Black	Remark
Light Fastness	2-3	5	8	8	
Heat Resistance	4	4	5	5	
Acids Resistance	5	2	5	5	
Alkali Resistance	5	3	5	5	
Wax Bleeding	3	4	5	5	
Alcohol	5	4	5	5	
Vinyl Coating Resistance	4	4	5	4	

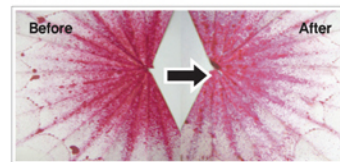
Light fastness values follow the Standard (1 ~ 8) / Other values go from 1 (poor) to 5 (good)



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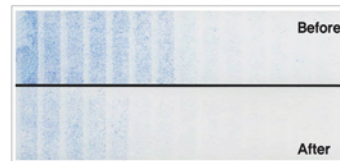


## Improvement in Emulsification



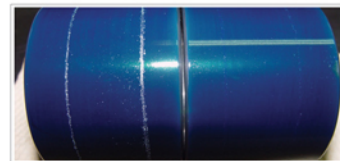
To prevent contamination by fountain solution, more stable pigment and materials have been used. This new formulation has attributed to improvement of printing performance.

## Improvement in setting and drying time



New application of high performing resin has kept high gloss and helped improvement of shortening setting and drying time. By improvement of setting and drying time, it leads better printing efficiency.

## Prevention of paper dust



Improved printing performance by using improved materials, this can keep better stability on the printing press, and keep consistent flow in high speed printing. This excellent printing characteristic guarantees high quality printing job and help to prevent paper dust during printing process.

- Packing : 1kg (normal, vacuum), 2.5kg vacuum, 5kg, 10kg, 20kg, 200kg

Sheetfed  
Offset Ink

# BARO INK

**Application :**  
Sheetfed Offset Printing (Non Absorbant Substrate, very fast drying)

## Characteristics of BARO INK

- Excellent Adhesion
- Good Transfer, Good Gloss
- High Density, Fast Drying with Small Quantity
- Slow Drying before Emulsification, Fast Drying after Emulsification, Best Condition for Offset Printing

		White	Magenta	Yellow	Cyan	Black
DM	1060 sec	29/35	28/35	29.5/36.5	28/34	30/36
T.V	400rpm/22°C	8	8.5	8.1	8.8	8
GLOSS		48.5	72.8	79.6	62.4	56.5
DENSITY		-	2.37	1.55	2.41	2.44
SKINING (25°C)	Before emulsification (min)	100	160	100	130	180
	After emulsification (min)	50	60	60	80	80
Adhesion	1x8AC(2000x5)	5	5	5	5	5

• Packing : 1kg (normal)



## PANTONE INK, METALLIC INK FLUORESCENT INK, LIGHT FASTNESS INK, COATINGS

### PANTONE INK

**Application :** Sheetfed Offset Printing

#### Color Range

- Pantone Yellow
- Pantone Yellow 012
- Pantone Warm Red
- Pantone Rubine Red
- Pantone Rhodamine Red(NB)
- Pantone Purple
- Pantone Reflex Blue
- Pantone Process Blue
- Pantone Green
- Pantone Orange 021
- Pantone Red 032
- Pantone Blue 072
- Pantone Black
- Pantone Violet
- Pantone Rhodamine Red(NB)
- Pantone Purple(NB)
- Pantone Reflex Blue(NB)
- Pantone Violet(NB)
- Pantone Blue 072 (NB)
- Transparent White



And also, DAIHAN's spot colors are available.

We DAIHAN is supporting our customer's easy color matching. We supply our base ink with color matching solution. If you have further question, please contact our sales person.

• Packing : 1kg (normal, vacuum), 2.5kg vacuum, 5kg, 10kg, 20kg, 200kg

### METALLIC INK

**Application :** Sheetfed Offset Printing

#### Color Range

- Pantone 871 Gold
- Pantone 873 Gold
- Pantone 877 Silver
- Daihan Gold 10 (Reddish)
- Daihan Gold 30 (Yellowish)
- Daihan Silver 70

### FLUORESCENT INK

**Application :** Sheetfed Offset Printing

#### Color Range

- Pantone 801 Blue
- Pantone 802 Green
- Pantone 803 Deep Yellow
- Pantone 804 Orange
- Pantone 805 Red
- Pantone 806 Pink
- Pantone 807 Purple
- Pantone 835 Yellow



### LIGHT FASTNESS INK

**Application :** Sheetfed Offset Printing (To prevent the color change against exposing to sun light)

**Color Range :** Magenta, Yellow

### COATINGS

Gloss OP Varnish, Matt OP Varnish, Water Based Coating, Antibiotic Water Based Coating



Web  
Heatset Ink

# Green Fresh<sup>+</sup> GF<sup>+</sup>(W)

Application : Web Heatset Printing

## Characteristics of GF<sup>+</sup>

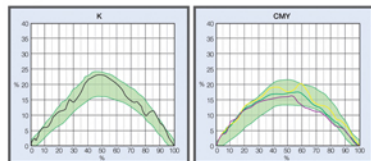
- High Gloss & Bright Color Performance
- Low Temperature Drying
- Good Slip & High Density
- Excellent Water Balance & Resistance
- Good Stability & High Speed Printability

Properties	Yellow	Magenta	Cyan	Black	Equipment/Condition
Tack Value	5.4	5.6	6.3	5.5	Inkometer/800rpm, 32°C
DM	40.5	39.0	39.5	40.5	Spreadometer 60sec / 25°C
Laray(Viscosity)	115.0	125.0	135.0	110.0	Laray Viscometer / 25°C
Gloss	80	85	55	85	Gloss Meter / 60°
Drying Temperature	95	110	110	110	Paper Temperature(°C)
Rub Resistance	5	5	5	5	Abrasion Tester
Finesses of Grind	3Max	3Max	3Max	3Max	Grind Gage (2.5 $\mu$ = 1 NPS)

5(Sic) → 3(Med.) → 1(Har)

- GF<sup>+</sup> Series has good printing performance on most of coated and matt coated substrate.
- GF<sup>+</sup> Series has good ink-water balance, it enables long run printing without frequent blanket piling & other troubles related to water resistance.

## Dot gain curves

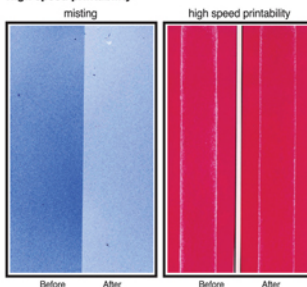


- Printing Machine : Komori system 38s
- Test Equipment : HEIDELBERG PrintOpen 5.2
- Based on Standard dot area (ISO)
- Improved dot reproducibility , optimization of dot on prints through lowering dot gain, dot loss.

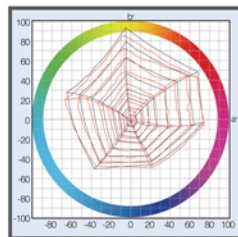
We are  
expanding our efforts to create  
perfect Natural colors through  
various printing ink products.



## High speed printability



## Display ab plan



- Printing Machine : Komori system 38s
- Test Equipment : HEIDELBERG PrintOpen 5.2
- wide color reproducibility

## Improvement in high speed printability

With the development of web machine (high speed, high quality), by using better varnish (high polymer chemistry, high solubility), improved misting and ink trapping in high speed.

## GF<sup>+</sup>(W)

Application : Offset Web-Heatset Printing

## Characteristics of GF<sup>+</sup>(W)

- High Gloss & Bright Color Performance
- Low Temperature Drying (Lower than GF<sup>+</sup>)
- Good Slip & High Density
- Excellent Water Balance & Resistance
- Good Stability & High Speed Printability



- Packing : 5kg, 20kg, 200kg

UV  
Printing Ink

# PRISM(SERIES)

Application : UV PRINTING INK

## Characteristics of PRISM

- Excellent printability
- Applicable for various substrates
- Excellent curing, rub-resistance, emulsification resistance
- VOC free ink (environment friendly)

- Packing : 1kg (normal)

## Daihan Ink

has been developing new products to meet and serve the changing demands of the printing ink industry using our expertise and years of experience.



## UV Printing Ink 'PRISM Series'

		ADHESION	SCRATCH	PRINT ABILITY	CURING SPEED
PRISM L	Letter press, various label, curved surface printing	●	●	★	●
PRISM G	Business Form Print, NCR Paper or General Paper	▲	▲	★	●
PRISM SP (Scratch Resistance)	Metallic Paper or various plastic film, good printability	●	★	★	●
PRISM PP (High Adhesion)	PP, PET, PVC, etc. which needs high adhesion, good adhesion	★	▲	▲	●
PRISM High Speed)	Carton(milk pack), good high speed printability	●	●	★	●
PRISM LED	For UV LED Lamp, Metallic Paper or various plastic film	●	★	★	●
PRISM H-UV	For H-UV(Hybrid) Lamp, Metallic Paper or various plastic film	●	★	★	●

Excellent : ★ > Good : ● > Normal : ▲

## OTHERS

UV Coatings, UV Reducer, UV Roller Cleaner





# METAL DECORATING INKS & CAN COATINGS

## Daihan Ink

has been developing new products to meet and serve the changing demands of the printing ink industry using our expertise and years of experience.



The metal printing recently requires the variety of metal substrates, printing process, high-speed printing, drying at low temperature, high quality of products and cost down. The MI metal decorating inks are specifically formulated to complete these kinds of printing condition through our long and abundant experience.

	SECTION	COLOR	REMARK
INK	3PC INK	PRO MI-18 GOLD	1. OFFSET PRINTING
		PRO MI-23 MEDIUM YELLOW	
		PRO MI-21 TOP YELLOW	
		PRO MI-21 YELLOW	
		PRO MI-25 MEDIUM YELLOW	2. THE CHARACTERISTIC
		PRO MI-19 GOLD	
		PRO MI-48 REDDISH GOLD	
		PRO MI-47 ORANGE	
		PRO MI-50 VERMILION	3) It has good resistance.
		PRO MI-04 RED	
		PRO MI-05 RED	
		PRO MI-06 RED	
		PRO MI-12 GERANIUM RED	4) It is nonpoisonous ink on the human body.
		PRO MI-57 MAGENTA	
		PRO MI-35 BRONZE BLUE	
		PRO MI-38 LIGHT BLUE	
		PRO MI-46S BLUE	
		PRO MI-39 LIGHT BLUE	
		PRO MI-74 GREEN	
		PRO MI-79 GREEN	
		PRO MI-94 BLACK	
		PRO MI-1 WHITE	
		PRO MI-2 BLUISH WHITE	
		PRO MI-3 MIDDLE BLUISH WHITE	
	2PC INK	PRO MI-1 WHITE	NON YELLOWING INK
		SILVER INK	METALLIC EFFECT
		MI-2-SERIES	LETTER PRESS
		MI-2-4QSERIES	
ADDI-TIVES	-	MI-6000	TACK VALUE CONTROL AGENT (LIQUID TYPE)
	-	COMPOUND(SPECIAL)	TACK VALUE CONTROL AGENT (PASTE TYPE)
	-	MI-90H2 MEDIUM	DENSITY CONTROL AGENT
	-	MI-38 DRIER	DRIER
	-	MI-8 DRIER	QUICK SET DRIER

- Packing : 1kg (normal)

## CAN COATINGS

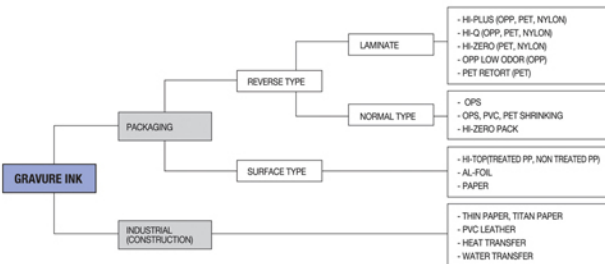
	CODE No.	TYPE	USE	REMARK
SIZE VARNISH (PRIMER)	DS-6	VINYL	GENERAL CAN	ADHESION
	DS-8	POLYESTER	TOY, FANCY ART	ADHESION
WHITE COATING	DW-428	ACRYLIC	FOOD, BEVERAGE CAN	GLOSS, WHITENESS
			AEROSOL, GENERAL CAN	
	DW-887-60	POLYESTER	GENERAL CAN, FANCY ART	PROCESSABILITY
	DW-406 TW(B)	POLYESTER	AL TUBE	GLOSS, WHITENESS
FINISH VARNISH	DF-4112-7NT	ACRYLIC	AL IMPACT CAN	SOLVENT RESISTANCE
			AEROSOL CAN	
	DF-4112-4T	ACRYLIC	GENERAL CANPAIN, PAIL CAN	NON YELLOWING
			AEROSOL CAN	
	DF-7300(M-TOP)	EPOXY	GENERAL CANPAIN, PAIL CAN	PROCESSABILITY, Anti-SCRATCH
			AEROSOL, GENERAL CAN	
	DF-7305(MCF)	EPOXY	DOM & BOTTOM	PROCESSABILITY, Anti-SCRATCH
			AEROSOL CAN(MOUNTAIN CAP)	
	DF-7000GL	EPOXY-ESTER	AL IMPACT CAN	GOOD GLOSS
	DF-7004(KT)	EPOXY-ESTER	GENERAL CANPAIL CAN : TOP	PROCESSABILITY, Wet On Wet
INSIDE LACQUER	DF-7005-027	EPOXY-ESTER	P.P. CAP	PROCESSABILITY, Wet On Wet
	MATT CLEAR	EPOXY-ESTER	PAIL CAN(TOP)	MATT EFFECT
	DI-9602A	EPOXY-PHENOL	FOOD, BEVERAGE, DRD CAN	RETORT, PROCESSABILITY
			GENERAL CAN	

- Packing : 15kg, 20kg





# GRAVURE INK



## SUBLIMATION INK SILVER PASTE AgNWs Ink

### SUBLIMATION INK

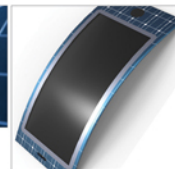
1. Application: jet printing ink for heat transferring to cloth
2. Color Range : MAGENTA, YELLOW, CYAN, BLACK, LC, LM, LK, LLK
3. Workable Printing Head : Epson, etc.

### SILVER PASTE

This silver paste is used for front contact electrode applied for multi crystalline silicon wafer to produce Solar Cell.  
For further query, please contact our R&D.



SILICON WAFER DI Silver Paste

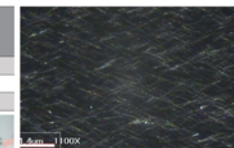


Examples

### AgNWs Ink

This is next generation transparent electrode silver nano wire ink, which can replace ITO. Generally, ITO is used for touch screen panel. But it's not flexible enough, and due to shortage problem, this AgNWs ink will be replaced for it.

Division	Coating Process	Optical Character			Sheet Resistance (Ω/□)	Others
		T(%)	b(%)	Haze(%)		
ITO	Sputtering	90 ↑	1.0 ↓	0.5 ↓	150 ± 10	SPEC
Other	Spin Coater	91.24	0.27	0.52	136 ± 10	
DAIHAN INK	Spin Coater	91.43	0.23	0.42	104 ± 14	



Since 1945,

Our first priority has focused on  
the customer's need in the  
Quality and Service.

1945. 10 Founded as the Daihan Offset Printing Ink Mfg., Co. producing Korea's first domestic printing ink
1945. 12 Daihan Ink printed the first bank note and school text book
1952. 06 Daihan Ink Manufacturing co., adopted as new company name
1955. 11 Mullae-dong plant completed
1962. 01 Korea's first exporter of printing ink to Hong Kong and Southeast Asian countries
1976. 04 Anyang plant completed
1989. 02 Company name changed to Daihan Paint and Ink Co., Ltd
1989. 04 Branch office, DPI America Inc. opened in the Chicago, U.S.A.
1993. 07 Awarded the Korea President Award Trophy for Productivity
1994. 04 Daihan Ink Co., Ltd. became independent from D.P.I.
1996. 09 Designated as Quality Assurance company (Q mark) by Government
2000. 02 New R&D center open
2002. 11 Acquired ISO 9001:2000
2004. 04 Acquired Green Partner by SONY
2004. 11 Awarded prize for exporting US\$10M
2006. 06 Start operation of Pyeongtaek new factory
2007. 07 Development of world's first solvent free ink, "SolFree"
2007. 11 Acquisition of ISO 14001 Environment Management Quotation, ISO 2846 International Standard Color Quotation
2008. 02 Solvent free ink "SolFree" Acquisition of U.S. FDA Quotation
2008. 11 Launch UV Inkjet Ink(UV digital Printing Ink)
2009. 11 Development of domestic's first printing water-based Antibiotic Coating
2010. 03 Acquired eco-friendly mark
2010. 06 Solvent free ink "SolFree", awarded prize for 2010 Korea Future Packaging
2010. 06 Solvent free ink "SolFree", awarded prize for 2010 Korea Green Management
2011. 12 Awarded prize for exporting US\$20M
2013. 05 Participate in China Print Show 2013

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**Daihan Ink**

Daihan Ink Corporation established a Daihan Offset Ink Manufacturing Corp. on October 1945, beginning with ink production for bills and text books for the first time in Korea, and has led printing ink industry over 68 years more than half a century, making so much history with establishing R & D centers for the first time in printing industry and exporting printing ink.

And with state of the art system, continuous technology innovation and a technology cooperation with top foreign companies, we have produced the products with perfect quality such as sheet fed ink with superior gloss and fast drying, heat set ink with excellent workability, newspaper ink, metal decoration ink, and UV curable ink.

As of 2000s, thanks to continuous investment and whole company's efforts, we have been recognized as international standard by acquiring ISO9001:2000 quality management certification, ISO 14001 environmental management certification, and FDA and developing the eco-friendly non-solvent ink called SolFree, which are enabling us to be the global color company beyond the domestic market.

With following our own basics, principles and putting the customer value the most priority, we, Daihan Ink, will do our best for Daihan ink color to be anywhere over the world through constant change and innovation.