

Proposal of Remote control Automatic Blinds Between The Glass



NEW LEADER OF THE WINDOWS INDUSTRY

HANS

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Certification for foreign countries, and etc.

Other certificates



Introducing Our Company

- Timeline
- Interested Area
- Company Structure

Company Timeline



- ◆1983. 10. Established Hansung Special Glass Co. (Building Glass Industry)
- ◆1989. 02. Changed Hansung Special Glass Co., Ltd.
- ◆1989. 10. Acquiring a Double Layer Glass KS Marking Authorization
- ◆1989. 11. Acquiring Licenses for Professional Construction Industry
- ◆1996. 03. Headquarter and factory relocation (Gumsan Local Industrial Park)
- ◆1996 11. Acquiring ISO9002 Certification
- ◆1996-05. Designation of Leading Small and Medium Enterprises in the 21st Century
- ◆1996. 12 Designation of promising small and medium enterprises
- ◆1997-05. Obtaining EM Markings and Quality Certificates
- ◆1998. 06. New Technology Certification (NT) Acquisition
- ◆1999-05. Designation of Venture Businesses
- ◆2000. 02. Cross-replace to Hans, Inc
- ◆2005-01. Established Hans Munchang Yuhan Corporation (Beijing, China)
- ◆2006-01. New Product Certificate (NEP)
- ◆2007. 12. Establishment of a subsidiary research institute for enterprises
- ◆2010. 10. Winning the LH Green Local Government Contest (Descendants of the Sun)
- ◆2010. 08. Patent Office registration for solar double-layer glass system (PTO No. 10 – 0978525)
- ◆2011-12. Solar Cell Module NEP Certification
- ◆2013-04 Designation of superior products for solar and power generation devices (Processor designated number: 2013017)
- ◆2014 11 Designation of superior products for solar and power generation equipment (Source Agency designated number: 2013017)
- ◆2018: 01 Patent registration for fine dust inhalation lens hood (10-2018-0003662)

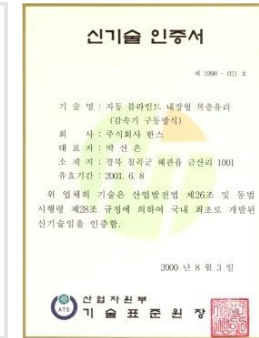
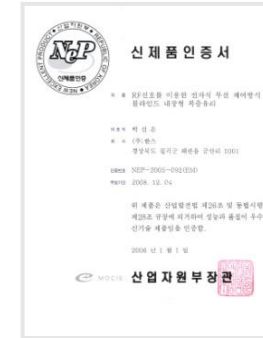


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 경북 칠곡군 왜관읍 금산리 1001
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Business Area

Because of our R/D team's endless improvement in produce quality and serve, our company strives to enter markets not only in Korea, but also markets in Asia, Europe, and U.S.A in the future. We promise that we will always consider the customer's perspective, and provide the greatest products.



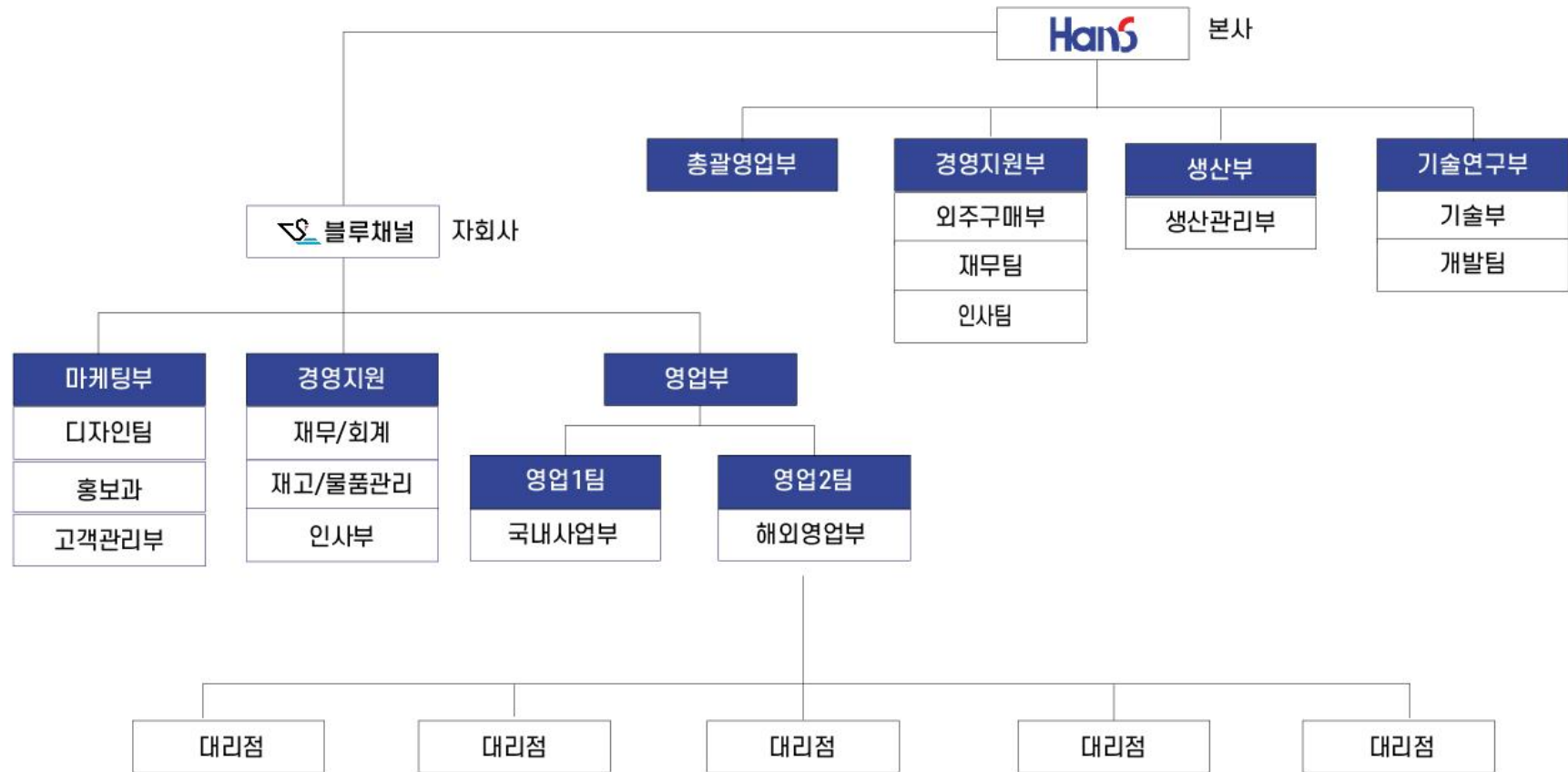
Production of
Double layer glass
with automatic
blinds

Producing of Outdoor Air
Conditioning automatic
louver



Production of traps
and drains

Company Structure





Introducing our Product

- Summary
- Type of Products
- Major Characteristics

Summary of Hans Blind



Hans Blind Overview!

Recently, double curtains are installed in living rooms as an interior concept, but due to the changes in the environment, our residential space is being effected negatively. (Ex: leading to health hazard because of bacterial infection.)

We believe that curtains should be eliminated in order to protect our families health and the health of the individual from various factors.



The country has recognized us

Certification of High Efficiency Energy Materials recieved (Ministry of Industry and Resources, Korea Energy Management Corporation)



The customers have recognized us

2000 Energy Winner Award received (group of citizens studying consumer issues)



Private organization has recognized us

In 2000, Korea Energy Awards received (Korea Competitiveness Association)

Type of Products L/S SYSTEM WINDOW

(L/S SYSTEM WINDOW + double layered glass with automatic blind)



Curtains or blinds exposed to heated living spaces, especially heaters, can contaminate the indoor space, while Hans windows are built into the double-layer glass to maintain comfort and cleanness of the living space at all times. Hans windows are suitable for the outer curtain wall windows of an office apartment and more.

Moreover, Hans windows can automatically adjust the blind angle according to changes in temperature or light intensity inside the building, and only certain areas can be controlled and operated. As a functional value, Hans windows are semi-permanent compared to normal blinds with average life span of about two to three years.

Lift features special is an operation of the high-precision, high-functioning system. The window allows it to be easily opened and closed by lifting the windows onto the rails during opening and closing.

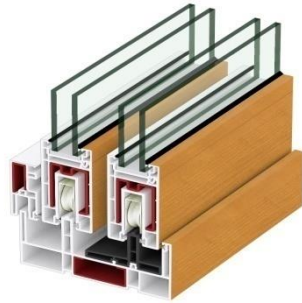


L/S SYSTEM WINDOW

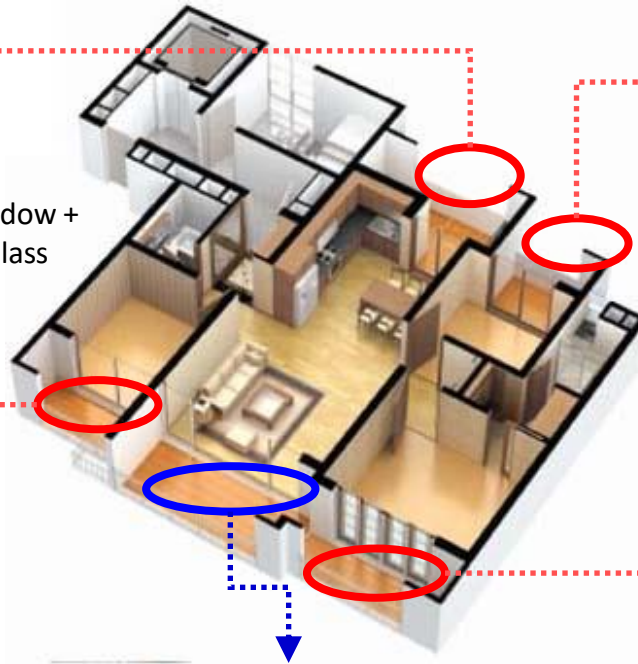
Non-extension type high-efficiency single window



Kitchen:
High Efficiency Single Window +
22mm Color Composite Glass



Bedroom1 :
High Efficiency Single Window +
22mm Color Composite Glass



Living Room: LS System Window
+ 37mm blind built-in double-layer
glass



Bedroom3 :
High Efficiency Single
Window + 22mm Color
Composite Glass



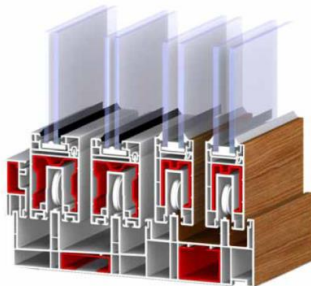
Bedroom 2: High Efficiency
Single Window + 22mm Carla
Composite Glass

L/S SYSTEM WINDOW

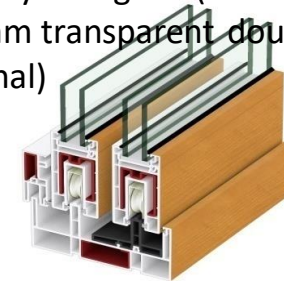
Extendable – Prime Double Window & New Prime Window



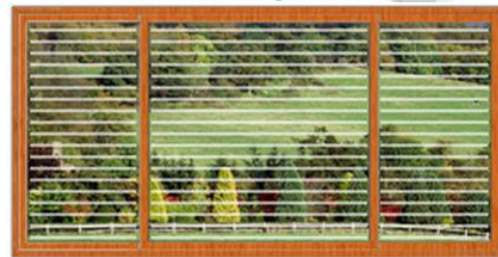
Kitchen (non-Extendable) :
High efficiency window + 22 mm The second-floor glass color



Bedroom2 (Expanded):
High efficiency medium window + 22mm color layered glass (external)
+ 22mm transparent double-layer glass (internal)



Bedroom1 (extended) :
High efficiency medium window + 22mm color layered glass (external)
+ 22mm transparent double-layer glass (internal)



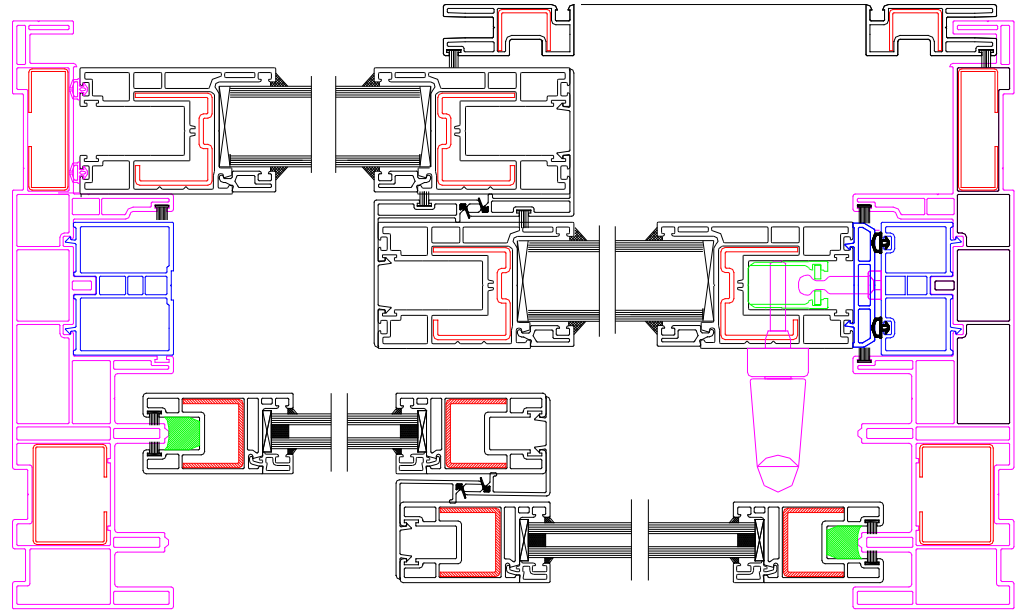
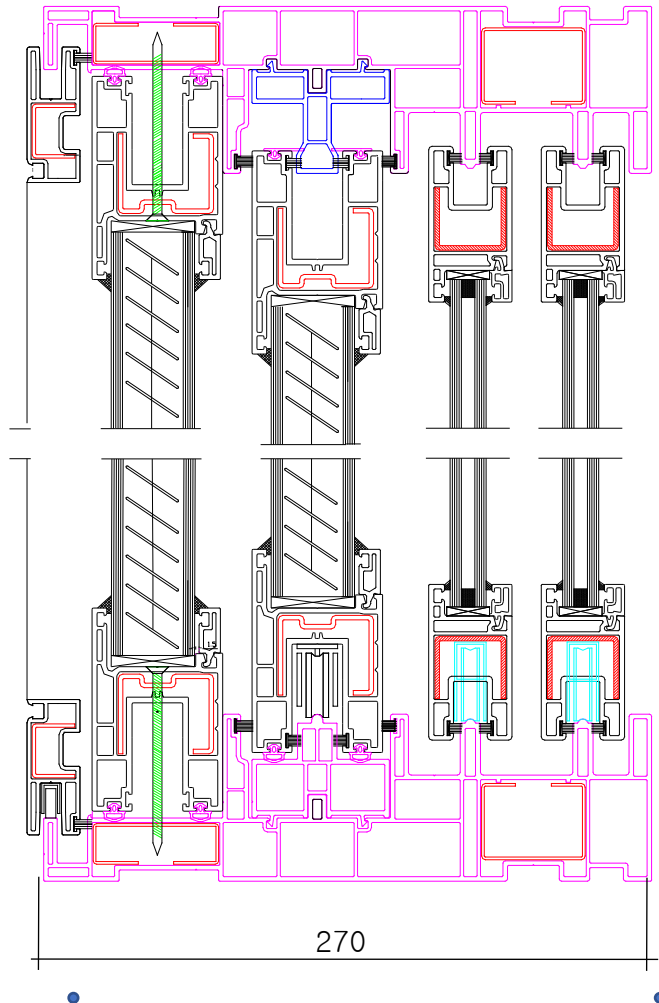
Living room: LS system medium window (extended)
+ 37mm blind with double-layer glass (external)
+ 22mm transparent double-layer glass (internal)



Bedroom2(non-extendable) :
High Efficiency Single Window + 22mm Carla Composite Glass

Product Specification

Assembly Diagram of Double Window with Automatic Blind

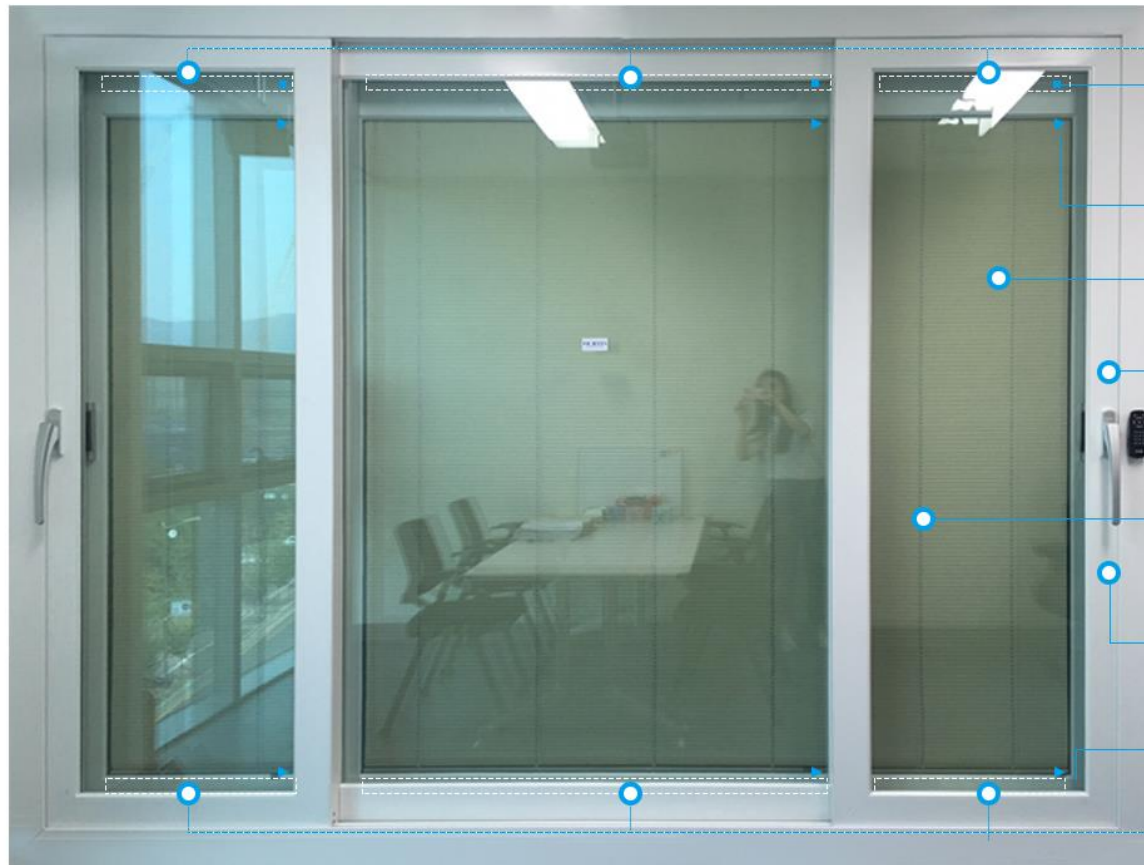


HANS AUTO BLINED specification

- ▷ Thickness: 37mm (5T + 27A + 5T)
- ▷ Thickness: 39mm (6T + 27A + 6T)
- ▷ Voltage : DC 15V
- ▷ Operating Temperature : -30°C ~ +70 °C
- ▷ Speed: 25 sec/m
- ▷ Life Expectancy : 40,000~45,000 CYCLE (Can use it for more than 30 years, if operated 3 times a day)

Product Specification

The double window system that was built originally had difficulty whenever A/S was needed ,since it included motor, sensor, and PC program assembled in a terminal. However, this product can be easily replaced by anyone in the outer door of the double layer glass.



알루미늄 상박스

모터 감속기

상부 리미트 스위치

복층유리속에 내장된 자동 블라인드

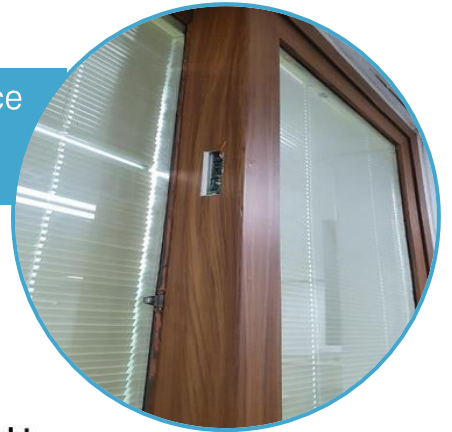
PC프로그램
충전 배터리

PVC 문짝

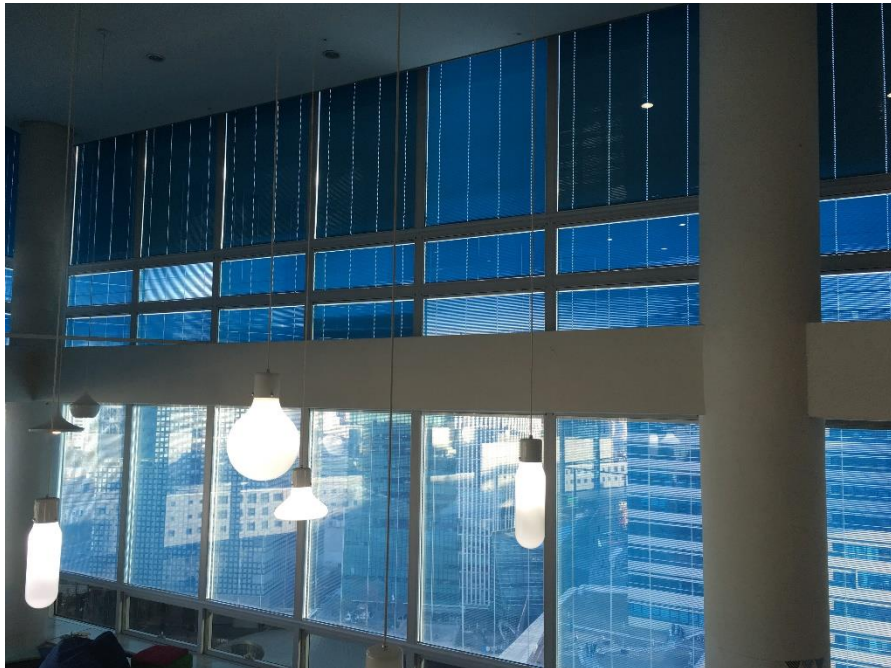
PVC 프레임

하부 리미트 스위치

하부 알루미늄 하박스



Applied sites



Example of the office building (SBA Seoul Industrial Promotion Agency)



Glass Blind Central Control Operation

Type of Products (T/T SYSTEM WINDOW)

(T/T SYSTEM WINDOW + Double Glazing with Auto blind)



Apartment hotel balcony

- System Window (TILT & TURN)
- + 37mm color layered with auto blinds



Type of Products (T/T SYSTEM WINDOW)



<Tilt & Sliding Windows>

T/S and T/T windows are functioned by being wired inside the building, so when you open the window, blinds or curtains may come into contact with the tiled window causing inconvenience.

However, Hanslas Changho has an automatic blind in a double-furnace glass to maintain a pleasant, clean indoor environment, to live a healthy life, and to feel no inconvenience while in use.

<Tilt & Turn Windows>

By securing air layer (27mm), which is four times larger than the existing double-layer glass (6mm), sound insulations are excellent and the remote control can be automatically adjusted.

In addition, when an apartment balcony is installed as a system window (T/S, T/T), exposed blinds or curtains should be installed about 30cm in from the balcony; It will take up some space, but Hansgrass windows can use the balcony space with a built-in automatic blind in the double-decker glass.

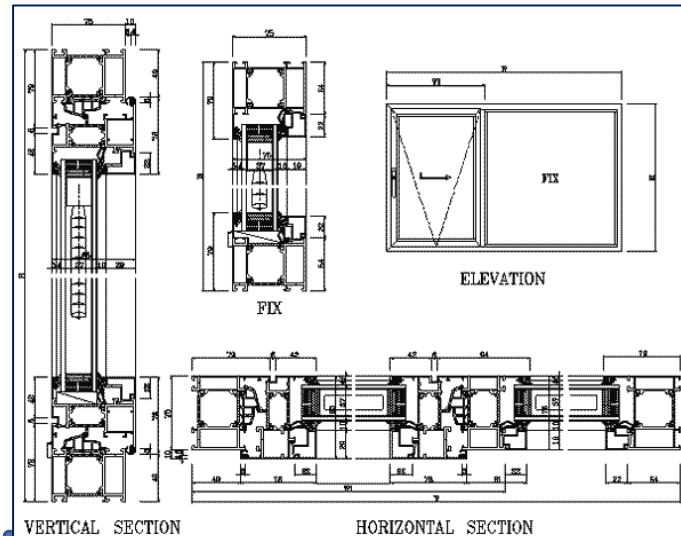
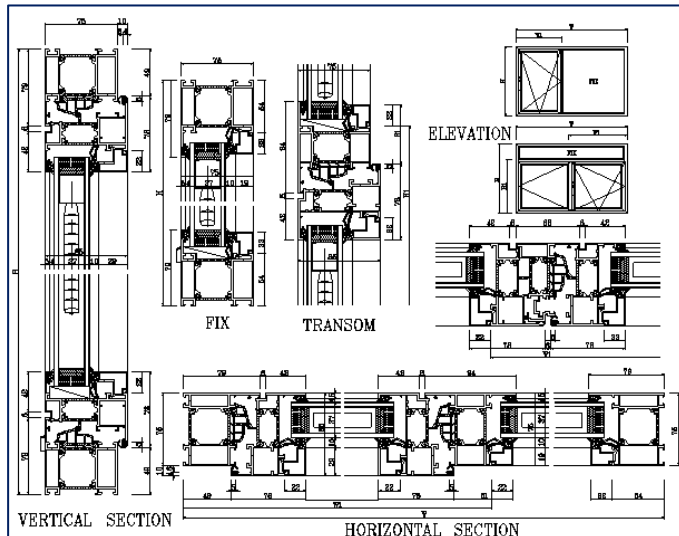


Product Specification

<Tilt & Turn Windows>



<Tilt & Sliding Windows>



HANS AUTO BLINED

- ▷ Thickness : 37mm (5T + 27A + 5T)
- ▷ Thickness : 39mm (6T + 27A + 6T)
- ▷ Voltage : DC 15V
- ▷ Operating Temperature: -30°C ~ +70 °C
- ▷ Speed: 25 sec/m
- ▷ Life Expectancy : 40,000~45,000 CYCLE

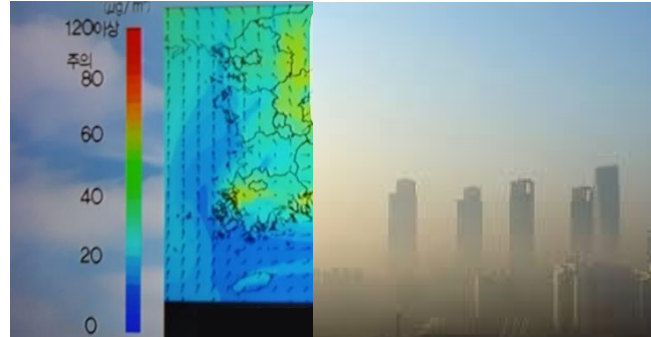
(Can use it for more than 30 years, if operated 3 times a day)

Risks of using Exterior Curtain Blinds

Diseases caused by environmental contamination when using external curtains and blinds

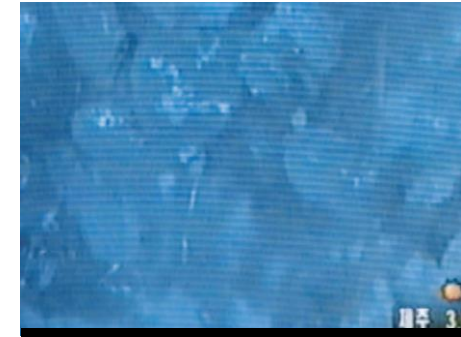


Virus caused by mites inside the curtain



Dust Pollution

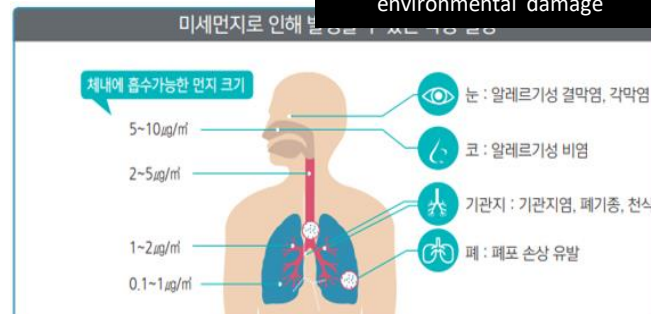
Dust pollution causing environmental damage



curtain pollution shape



Curtain contamination due to fine dust



various diseases caused by dust



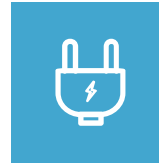
Child suffocation risk.

Major Characteristics



Healthy life

Inside the double-blind glass, there's blind inserted, which means that internal cleaning is not needed, Also, it protects the customers from unnecessary dust, mites, viruses, and etc.



Energy saving

Glass buildings reduce energy use in heating and air-conditioning on cold winter days.



Economic

Cleaning it periodically and replacing parts are not needed, and it's used with a remote which means that there will be no repair cost. It can be used semi-permanently.



Safety

It works even when the windows are open, and it prevents dangerous situations from children and people with disabilities, and it's easy to use.



Insulation/Noise cancelling

It's four times larger than the conventional pair glass (6mm), Which results in outstanding insulation and acoustic insulation.



Rapid Response A/S

The blind system is attached to the door handle, making it easy to A/S. There's Free A/S for 5 years after the construction is completed- after 5 years, there will be payments.

Major Characteristics(Healthy living)

Automatic Blind Installation in living room/company building

Embedding blinds inside the double layer glass, curtains exposed to virus and pollution are protected; creates a healthy residential space.



Original curtain in living rooms

Closed indoor air temperature / humidity maintenance / increase of dust increasing environmental pollution/Explosion of mites / Allergy Pay diseases and more.



Major Characteristic (Energy Saving)

KIST 한국건설기술연구원

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Tel: 031-9100-353,309 Fax: 031-9100-361

성적서 번호: 0606-0039

쪽 (1) / 총 (5)



시험 성적서

1. 의뢰자

- * 기관명: (주)한스
- * 주소: 경복 칠곡군 왜관읍 금산리 1001
- * 의뢰일자: 2006년 5월 19일(접수번호: 563)

2. 시험성적서의 용도: 산업자원부고시 제2006-29호(2006. 3. 22)에 의거하여
고효율에너지기자재 인증시험을 하였습니다.

3. 시험대상품목(또는 시료명): 자동블라인드 내장형 시스템창호(3쪽 시험체 도면 참조)

4. 시험기간: 2006년 6월 3일 ~ 2006년 6월 7일

5. 시험방법: KS F 2278:2003(창호의 단열성 시험 방법)

6. 시험환경

- * 온도: (18.7 ~ 19.9) °C, 상대습도: (46.2 ~ 51.6) % R.H. * 장소: Mock-up 실험실

7. 시험결과

시험 항목	단 위	시험 결과	시료 구분	비 고
열관류저항	(m²·K)/W	0.57	시료 A	적용범위: 열관류저항 0.293 (m²·K)/W 이상
		0.57	시료 B	

- 이 하 어 렵 -

시험자 최 경 석

기술책임자 강 재 식

2006년 6월 8일

한국건설기술연구원장

* 위 성적서는 국제시험소인정협력체(International Laboratory Accreditation Cooperation) 상호인정협정
(Mutual Recognition Arrangement)에 서명한 한국고정시험기관인정기구(KOLAS)로부터 공인받은 분야에
대한 시험결과입니다.

* 위 성적서는 2항 시험성적서의 용도 이외에는 사용을 금지합니다.

* 상기 내용은 의뢰자가 제시한 시료의 시험결과이며, 본 시험결과는 전체 제품의 품질을 대표하지 않습니다.

<F-QP-05-05-1/4>

한국건설기술연구원

Overview of Energy Performance Evaluation

As part of the development of practical technology for building energy conservation, the energy performance of the blind built-in window protection system developed by Hans was assessed and computer simulations were performed on one generation (full floor area 85m²) based on the standard apartment building.

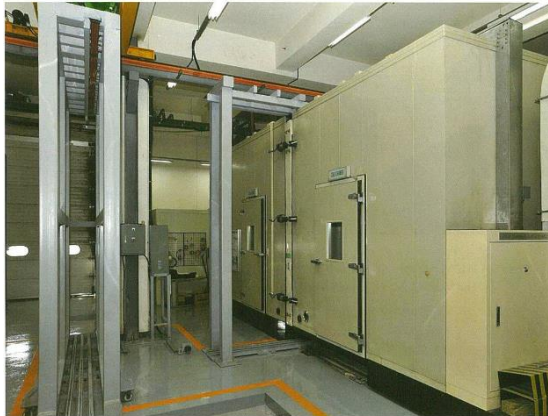


그림 1. MOCK-UP 시험체의 일사 차단성능 및 단열성능 분석 장면

5. 결론

(주)한스에서 개발한 블라인드 내장형 창호시스템에 대하여 공동주택 기준층 1개 세대(전 용면적 85㎡)를 대상으로 냉난방 에너지절감효과를 평가한 결과, 세대당 339.6 KWh의 냉난방부하를 절감하였으며, 이를 냉난방비용으로 환산하면 153,667.4원이 절감되었습니다.

5.1 에너지절감비용 산출(현행 주택용 전액(지압) 요금 적용시)

- 1) 세대당 평균 연간 냉난방비용 절감액: 153,667.4 원/세대
- 2) 2,000세대 단지 연간 냉난방비용 절감액:
153,667.4 원/세대 × 2,000세대 = 307,334,800 원
- 3) 50,000세대(미시 선도시 기준) 연간 냉난방비용 절감액
153,667.4 원/세대 × 50,000세대 = 7,683,370,000 원
- 4) 300,000세대(연간 공동주택 신축 세대 기준) 연간 냉난방비용 절감액
153,667.4 원/세대 × 300,000세대 = 46,100,220,000 원

5.2 에너지원단위(EOE) 절감량 산출

- 1) 세대당 평균 연간 절감 EOE: 0.0774 toe
- 2) 2,000세대 단지 연간 절감 EOE:
0.0774 toe/세대 × 2,000세대 = 154.8 toe
- 3) 50,000세대(미시 선도시 기준) 연간 절감 EOE
0.0774 toe/세대 × 50,000세대 = 3,870 toe
- 4) 300,000세대(연간 공동주택 신축 세대 기준) 연간 절감 EOE
0.0774 toe/세대 × 300,000세대 = 23,220 toe

5.3 이산화탄소(tCO2) 절감량 산출

- 1) 세대당 평균 연간 절감 tCO2: 0.16 tCO2
- 2) 2,000세대 단지 연간 절감 tCO2:
0.16 tCO2/세대 × 2,000세대 = 320 tCO2
- 3) 50,000세대(미시 선도시 기준) 연간 절감 tCO2
0.16 tCO2/세대 × 50,000세대 = 8,000 tCO2
- 4) 300,000세대(연간 공동주택 신축 세대 기준) 연간 절감 tCO2
0.16 tCO2/세대 × 300,000세대 = 48,000 tCO2

Major Characteristic (Energy Saving)

Outstanding insulation performance compared to others

구 분		허 용 값	결 과 값	판 정	비
기 밀 시 험		23.9CFM	8CFM	합 격	ASTM E-283
수 밀 시 험		OVER FLOW	이상없음	합 격	ASTM E-331
구 조 시 험	정압	11.88mm	7.53mm	합 격	ASTM E-330
	부압	11.88mm	6.79mm	합 격	
잔류변형 시 험	정압	4.16mm	0.00mm	합 격	ASTM E-330
	부압	4.16mm	0.00mm	합 격	

❖ Test Overview

Test Objective: Application of Zugong 3 Complex
Request for Testing : Site of the 3rd Jugong Complex
in Gwacheon, Samsung C&T Co., Ltd.

Test date: 16 April 2007~ 17 April 2007

Test location: CNC Laboratory (Gyeonggi Province Anseong)

Test criteria: ASTM (USA)

Specifications for test specimen: 3280(W) × 2260(H),
3 windows





Results and Case

■ Main Application Site

■ Application sites

Major Application sites (Optional)

공 사 명	건 설 사
과천 주공3단지 재건축	삼성물산㈜
역삼 래미안(영동1단지 아파트 재건축)	삼성물산㈜
해운대 대림아파트	대림산업㈜
대치동 진달래 아파트 재건축	롯데건설㈜
역삼동 개나리 아파트 재건축	삼성물산㈜
대구수성 대림아파트	대림산업㈜
염창동 한화아파트	㈜한화건설
수원 서둔동 KCC아파트	금강종합건설㈜
김해 장유3차 대우아파트	㈜대우건설
구미 화성파크 프레지던트	화성산업㈜
신림 미도아파트 재건축	㈜대우건설
암사동 현대홈타운	현대건설㈜
고양 능곡 KCC아파트	금강종합건설㈜
대구 용산동 롯데아파트	롯데건설㈜
방화동 동부센트레빌	동부건설㈜
춘천퇴계동 쌍용아파트	쌍용건설㈜
성수동 롯데아파트	롯데건설㈜
장안 시영현대아파트	현대건설㈜
대전 노은 계룡리슈빌아파트	계룡건설㈜
조강밸리아파트	㈜조강종합건설
대구 신암동 건영캐스빌	㈜ 건 영
목동 대아아파트	대아건설㈜
대구 화성리버파크	화성산업㈜
안성공도 쌍용아파트	쌍용건설㈜

공 사 명	건 설 사
광주 봉선동 쌍용아파트	쌍용건설㈜
문래동 현대홈타운	현대건설㈜
대전 대덕대학 이공관 리모델링	대신토건㈜
삼성의료원 암센터 무균실	삼성물산㈜
롯데 매트رو 팔레스	롯데건설㈜
둔촌동 경방빌 아파트	경방종합건설㈜
광주 태전리 쌍용아파트	쌍용건설㈜
용인구성3차 쌍용아파트	쌍용건설㈜
부산백양산 쌍용아파트	쌍용건설㈜
양산신도시 쌍용아파트	쌍용건설㈜
부천상동 KCC아파트	금강종합건설㈜
부천상동 쌍용아파트	쌍용건설㈜
일산풍동 쌍용아파트	남광토건㈜
도곡동 타워팰리스	삼성물산㈜
용인구성 쌍용아파트(1차, 2차, 3차)	쌍용건설㈜
동수원 쌍용아파트	쌍용건설㈜
관악산 현대아파트	현대건설㈜
신도림 대림아파트(1차, 2차, 3차)	대림산업㈜
조아텔 신축공사	조 아 텔
역삼동 아세아빌딩	㈜ 희 훈
대한중석본관 증개축공사	대한중석초경㈜
클럽 비전힐스	㈜동인건설
경주 명사마을아파트	㈜ 우 방
제주 신라호텔 객실공사	신 라 호 텔

Representative Application sites



Applied Model Houses



<부산 쌍용 아파트>



<대구 한스 본사 모델하우스>



<여삼 래미안>



<여삼 래미안 롯데 낙천대>



<대한 주택공사 용인 구성지구>



<대한 주택공사 울산 화봉지구>



<대한 주택공사 울산 화봉지구>



<대한 주택공사 파주 윤정지구>



<대한 주택공사 성남 도촌지구>



<대한 주택공사 고양 행신지구>



<대한 주택공사 고양 행신 지구>

Estimated Cost

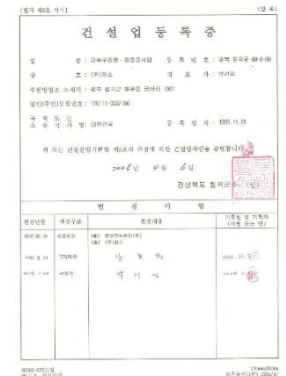


▶ How to Calculate : Width (3,600mm) x Length(2,200mm) = 7,525,500

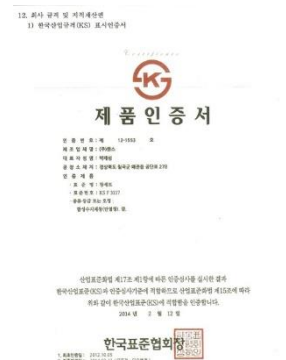
- Price changes according to where it's being installed
- Sales manager decides the price after visiting
- Includes installation costs

corporate registration

Construction
registration card

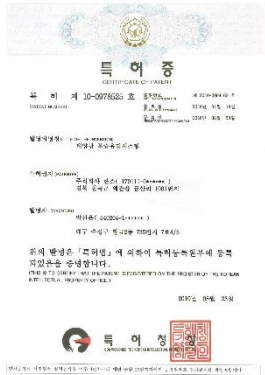


product certificate



Certificates

Automatic Blinds



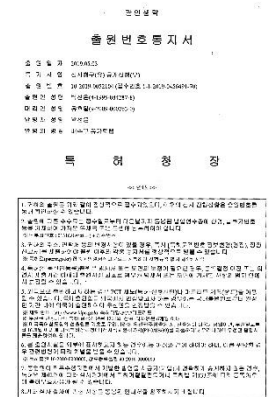
Automatic Louver



Double smell eliminating trap



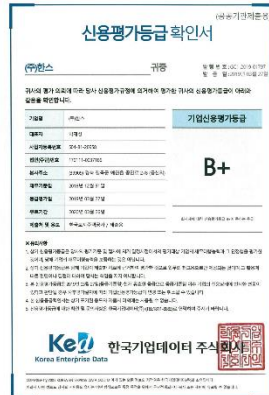
Design price



C02



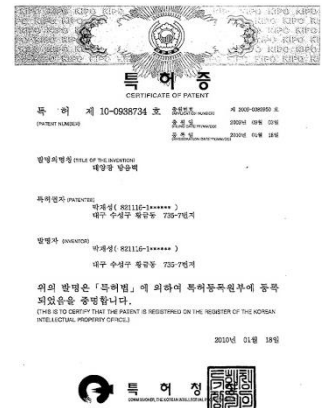
Credit Rating Confirmation



Credit Rating Confirmation



double layer glass product certificate



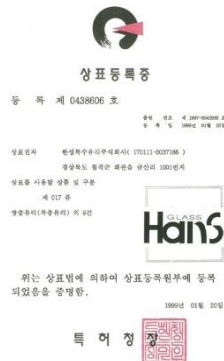
Certificates

specification of intellectual property

번호	등록번호	종류	발명명	특허명	발명자
1.	제1144394호	실용신안등록특허	충전장치에 의한 배터리의 제어 장치	1999.02.02	특허명
2.	제100080804호	실용신안등록특허	전력선로 차단 자동 조절 장치	1999.02.21	미국특허명
3.	제1113985호	실용신안등록특허	전력선로 차단 자동 조절장치	1999.08.04	미국특허명
4.	제133335호	실용신안등록특허	원격제어 가능한 비전송라인에 대한 전송라인 연결	2005.05.26	특허명
5.	제1433715호	특허명	원격제어 가능한 비전송라인에 대한 전송라인 연결	2005.12.02	특허명
6.	제11000734호	특허명	배터리충전장치	2013.03.28	미국특허명
7.	제10110231호	특허명	배터리충전장치	2013.03.28	미국특허명
8.	제11000734호	특허명	배터리충전장치	2013.03.28	미국특허명
9.	제11000734호	특허명	배터리충전장치	2013.03.28	미국특허명
10.	제11000734호	특허명	배터리충전장치	2013.03.28	미국특허명
11.	제11000734호	특허명	배터리충전장치	2013.03.28	미국특허명
12.	제11000734호	특허명	배터리충전장치	2013.03.28	미국특허명



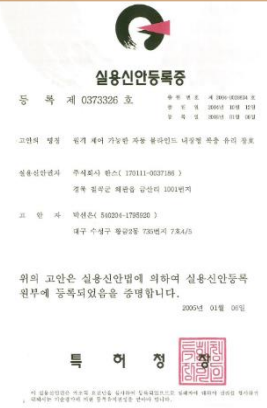
Trademark registration



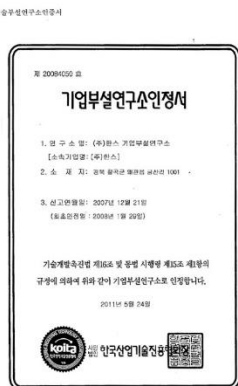
Utility certification 1



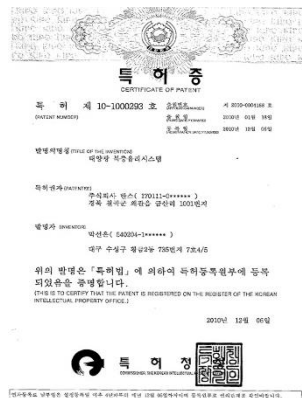
Utility certification 2



Accreditation Paper for Corporate Research Institute



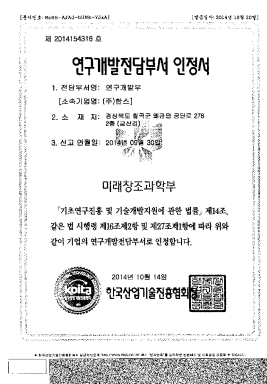
Photovoltaic glass patent certificate



New Technology Recognition Confirmation



R&D Development Department





THANK YOU

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