

# 办公空间

## OFFICE SPACE

### DESIGN COLLECTIONS

设计大典



办公室 I  
咨询办公室/信息技术办公室/办公室 II  
OFFICE I  
CONSULTING OFFICE / IT OFFICE / OFFICE II

01

建筑世界株式会社 编  
南海出版公司



## 图书在版编目(CIP)数据

设计大典. 1, 办公空间/韩国建筑世界株式会社著;佳译公司译. —海口:南海出版公司, 2003. 1  
ISBN 7-5442-2349-3

I. 设... II. ①韩...②佳... III. 办公室—室内设计: 空间设计—世界—汉、英 IV. TU238

中国版本图书馆CIP数据核字(2002)第095118号

著作权合同登记号:

图字: 30-2002-165

SHEJI DADIAN 01 — BANGONG KONGJIAN  
设计大典 01 — 办 公 空 间

---

编 著	建筑世界株式会社
翻 译	佳译公司
责任编辑	陈正云
封面设计	涂丽娜
出版发行	南海出版公司 电话 (0898) 65350227
社 址	海口市蓝天路友利园大厦 B 座 3 楼 邮编 570203
经 销	新华书店
印 刷	深圳宝峰印刷有限公司
开 本	635×965mm 1/8
印 张	24
字 数	200千
版 次	2003年1月第1版 2003年1月第1次印刷
书 号	ISBN 7-5442-2349-3/T·32
定 价	168.00元

---

南海版图书 版权所有 盗版必究

# 设计大典 · 办公空间

---

## DESIGN COLLECTIONS · OFFICE SPACE

建筑世界株式会社 / 编

南海出版公司

2003 · 1

# 目 录

## 办公室光照与颜色设计

李金松/春兰国立大学的建筑学教授.....4

## 办公室 I

惠普泰国分公司大楼 .....	20
三宝 .....	28
东亚传媒中心 .....	34
新黄办公室 .....	42
大金·阿桑·设计方案 .....	48
BS集团 .....	52

## 咨询办公室

早安，新韩大厦 .....	60
盖·洁米里·额斯特·杨 .....	66
萨·韩·D·M办公室 .....	74
吴里投资银行 .....	82
B I 伯奥 .....	88

## 信息技术办公室

日本东芝公司（韩国办事处） .....	96
SDS邦当高科技中心 .....	104
AVAYA .....	110



# C O N T E N T S

信息技术战略研究院 .....	116
N-成型机 .....	122

## 办公室 II

克浪工业瓦成大厦 .....	128
王京集团 .....	134
BESCAT.COM .....	140
小龙虾 .....	146
SE 推广 .....	150
萨韩唱片 .....	158

## 设计和作品

杨约媒体 .....	164
------------	-----

## 改建空间

艾森学院改造项目 .....	174
----------------	-----

## 细部设计

韩国OA, 办公室平面图, 配套家具 .....	182
--------------------------	-----

# 办公室光照与颜色设计

## Office Illumination & Color Design

李金松/春兰国立大学的建筑学教授

东京技术学院,

布拉特学院,

泰松金助理(合作者)

AIC(执行委员会会员)

KCIE

春兰国立大学的建筑工程学, 大学毕业生

春兰国立大学的建筑工程学, 工程系学士

东京技术学院, 工程系学士, 建筑学视觉环境

泰松金 助理(合作者), 美国布拉特学院, 客座教授(访问学者)

AIC

KCIE检查员

韩国色彩研究协会理事

汉城建筑委员会(色彩·光照)会员

ISCC (色彩理事会学会)会员

韩国建筑学会会员、韩国光照及电气安装工程师协会会员、日本建筑学会会员、日本时尚色彩协会会员、日本光照及建筑协会会员

Architectural engineering of Chungnam National University , the university graduate

Architectural engineering of Chungnam National Graduate School, Bachelor of Engineering

Tokyo Institute of Technology, Bachelor of Engineering , Architecture Visual Environment

Pratt Institute, U.S.A, a guest professor

Tai Soo Kim Partners, U.S.A, a guest researcher

AIC (Association Internationale de la Couleur)'s executive committee member

KCIE(Korean Commission International de L'eclairage) inspector

Director of Korea Society of Color Studies

Seoul Architecture committee (color°illumination)'s member

ISCC (The Inter Society Color Council) member

A member of Architectural Institute of Korea, The Korean Institute of Illuminating and Electrical Installation Engineers, Architectural Institute of Japan , The Japan Fashion Color Association, The Japanese Institute of Illuminating, Architecture.

不管迄今为止业务功能分类的特点是什么，人们一直认为办公室的内部装修很重要的一点就是要经济高效。因此对于光照和色彩因素的设计图被普遍采用，而不管办公室有何功能。

根据近几年建筑的特点，办公室的内部装修也变得多样化专业化了，成为令人愉快的场所。此外，它也越来越成为引人注目的地方。光照与色彩是营造一个令人愉快的办公场所的基本要素，也要求有更多样更专业的方法来改变现有的普通和简单的光照与色彩设计。与此相对应的是，为了应付变化迅速的办公室功能，就绝对必要为员工们创造一个惬意的工作环境，还需要细分的、功能化的色彩，以及一份优秀的光照环境设计图。

另外，很重要的一点就是一栋办公大楼的办公室环境应该装备高科技设施和令人心情愉快的办公环境。为了达到这个目的，就必须在理解内部环境的基础上，制定一份设计方法。有了一份设计方法，就可以帮助设计师理解写字楼的光照与色彩设计图中的光照理念、窗户的设计、光照方式以及色彩设计的方案。

The interior design of an office has regarded a economical efficiency as important irregardless of the characteristics of business classified by function so far, so the plan on illumination and color considered is designed without the consideration has used irregardless of the function of an office.

As the offices become diversified and specialized corresponding to the characteristics of the recent buildings, becomes agreeableness essential to a residential. Besides, it becomes the means of appeal. Illumination and color is the main factor for agreeableness of an office space, and More diversified and specialized method is required to get away from the existing common and simple illumination and color. Accordingly, in order to cope with environment of the rapidly changing offices' function, agreeableness for workers is indispensable, and as also is the more subdivided and functional color, and as also is illumination environment plan.

Besides, the office environment of an office should be equipped with high-tech function ,and human's agreeableness is significant also is very important. For this, on the basis of understanding interior environment, the design methodology should be set up.

Hereafter it helps understand the illumination concept, the plan of window, the way of illumination and the plan of the color design as the basic requirement for an office illumination and color plan.

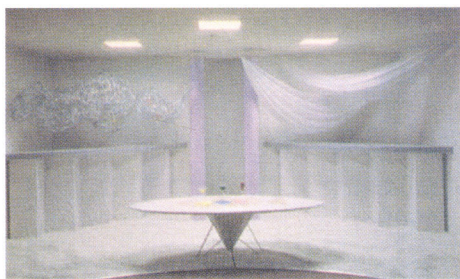


## ■ 光亮安全(需要多少光亮?)

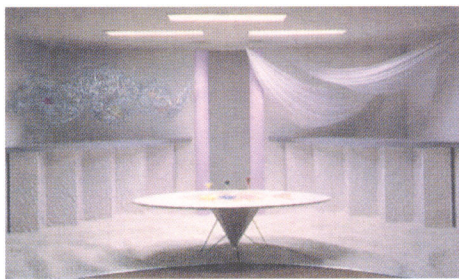
### · 光照的目的

光照的目的主要分为两类。一类是保证与一个举动有关的清晰观察的一个周期的环境和由环境的变化来分类的与一个举动有关的时间,另一类则是用来为丰富生活营造一种氛围。

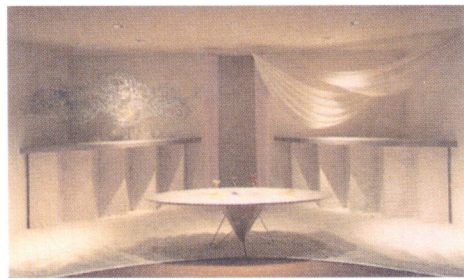
在人类的五种感觉中,来自视觉的信息就占87%,因此光照的作用很大,因为它关系到一个可视的环境。



色测温度大约为5000k  
上午9点钟、下午3点钟太阳光源  
color temperature approx. 5000k  
...9o'clock a.m, 3o'clock p.m 's sunlight source



色测温度大约为 4500k  
日出后和日落后的两个小时  
color temperature approx. 4500k  
...after sunrise, two hours to sunset



色测温度大约为3000k  
日出后和日落后的一个小时  
color temperature approx. 3000k  
...after sunrise, one hour to sunset

## The security of brightness (How much brightness is needed?)

### · The purpose of illumination

The purpose of illumination is largely divided into two kinds. One of them is the security of clear vision for observing an periodical environment connected with an action, and the environment's change classified by the times connected with an action, and the other is the expression of an atmosphere to make life plentiful.

Information from the visual sense among five senses is occupied about 87%, so the role of illumination is important, and it control a visual environment.

### · Brightness

First of all, the security of lightness is very important in functional aspect. If the quantitative index is lighting which is brightness of built area accepting light, the light is used generally.

Considered of the increasing works by VDT and understanding human's expression at an office, lighting of the vertical area along with horizontal area should be secured.

But, for instance, the illumination that eyes are conforming gets high in numerical aspect at a bright space of view like a window, so it is noticeable that a dark range can occur visually. As the way of making the lighting distribution even 1) an illuminator should be arranged disperse and evenly, 2) the direct light is used to heighten the reflection rate of ceiling and wall side.

### · Illumination

Illumination the index irregardless of a periodical reflection. Therefore, as visible brightness's index, the direct visible brightness, in other words, brightness marks brightness from the visual point's direction is good.

### · 光亮

首先，光亮安全在功能方面是很重要的。如果定量指数是光照设备，通常这种光照设备都使用日光灯。

考虑到视频显示终端越来越多地投入使用以及人类对一间办公室的印象，应该在一个水平区域和垂直区域均要装备光照器材。

但是，例如：在一个诸如窗口这样的一个明亮的地方光照强度太大，那么在视觉上就会出现一个黑色区域。使光照分配均匀的办法就是：(1)分散均匀地安装光照灯，(2)使用直接光照来提高天花板和墙角的反射光。

### · 光照

不管是否为一个定期的反射光，光照都是一个指数。因此，作为一种可视的光亮指数，直接的可视光亮，换言之，来自可视点方向的光亮最好。

不过，如果人的眼睛处在光线明亮的地方，它的灵敏度就会下降，而如果人的眼睛处在光线昏暗的地方，它的灵敏度则会提高。人的眼睛会随着光亮的程度而改变，所以不同的人对光亮的感受也不一样。

Merely, in case that man's eyes is in a bright, its sensitiveness gets lower, and in case of contrary situation, it gets higher. They have coped with the change of brightness, so brightness man feels doesn't always correspond to brightness by one to one.

Generally, a visual point is always moving, and the condition of eyes' conformity is changed according to the situation. After conforming a bright parts, it can not see a dark parts. And after conforming dark parts, the bright parts can be felt dazzling. Therefore, if the change of bright distribution is big, disagreeableness and fatigue of eyes could occur. Accordingly, brightness distribution should be small in a visual works centered office. Brightness of ceiling and wall sides should get more lower than brightness for works. Therefore, in case of office, the whole of rooms is brightened evenly, and the works' space is needed to brighten with the sub-illumination. Contrarily, if the difference of brightness is small, the change becomes not enough. For comfortable and agreeable atmosphere, a suitable difference of value is needed.

### · Interior reflecting rate

Generally, illumination is divided into a direct illumination via sunlight source and an indirect illumination by reflecting light source of wall and ceiling. Therefore, sunlight source is the same, but the illumination for works gets change by interior finish condition. If a direct light from sunlight source is not enough, the interior reflection rate should be heighten.

Besides, the interior finish has an effect on visual works by changing brightness distribution. And as also do rooms' psychological impression.

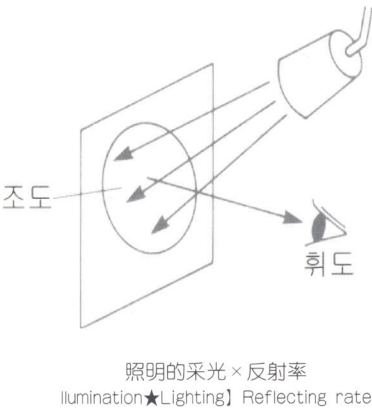
一般来说，一个视点总是移动着的，而眼睛的一致性也会随着环境的变化而改变。看完一个亮点之后，眼睛就暂看不清暗处的东西了。而看习惯暗处的东西之后，就暂看不清亮处的东西了，并且还会头晕。所以如果光线的分布的差异很大，则眼睛会出现不适和疲劳。因为这个道理，办公室内的光线分布差异不应该太大。而天花板和墙角的光亮应该比工作台的光亮低很多。如果在办公室，则整个房间的光亮应该分布得很均匀。

反之，如果光亮的差异很小，那么眼睛视点的变化则显得不够。为了营造一种舒适宜人的气氛，就必须有适当的光亮差异。

· 室内的反射率

一般来说，光照通过太阳光源分为直射光和通过墙和天花板的反射光源分为间接反射光。因此，太阳光源是一样的，而室内的反射光则由于室内不同的装饰而有所不同。如果来自太阳光源的直射光不足的话，就要提高室内的反射率。

此外，室内的装饰的光亮分布的变化以及房间给人的心理印象也会对视觉产生影响。



建议的反射率		
帕斯特	·	
天花板	·	>0.6
墙壁(包括局部)	·	0.3~0.7
书桌	·	0.1~0.3
家用家具	·	0.25~0.5

Requirement of darkness

Darkness is good for relaxing, respite and concentration, and don't forget that darkness could be needed according to the function of space.

The recommended reflecting rate		
Parst	·	the recommended reflecting rate
Ceiling side	·	over 0.6
Wall sides ( including in partition)	·	0.3~0.7
Desk side	·	0.1~0.3
Household furniture	·	0.25~0.5

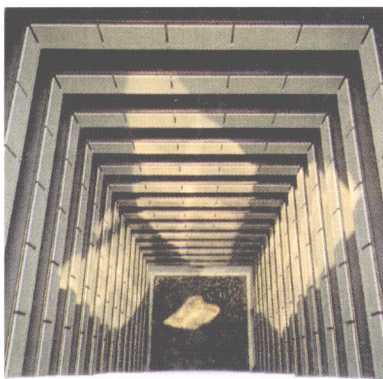
[ Reference of offices by Japanese illumination institute]

■ Window ( Natural light and openness)

· The function of window

The role of window is transmission of light and air permeability as transmission capacity, sound insulation, airtightness, and waterproof. Accordingly, a large-scale window is good for lighting, but not good for heat. Finally, transmission and interception should be inspected in design by considering interior and exterior condition.





通过露天自然采光系统表现出令人愉快和清新的环境

Agreeable and vivid surroundings is expressed via natural lighting systed on an open air

#### · 照明指数

对于不同于光照的照明来说，光亮可以根据视力和气候改变，因此光照并不是一个合适的指数。因此，完全的天窗光照与白天因素都用作光照的指数。

#### · 开阔性

窗户的作用与能源的传输、获得以及心理感受有关。一般来说，宜人的视觉环境对心理很有帮助，它的其中一个指数就是开阔性。我们国家把开阔性作为一个重要的指数是因为季节特别是夏季的影响。此外，窗户处的景观正好弥补了房间内的狭窄，并能减轻人们的紧张心理。而且，它可以让人产生一种与窗外的世界息息相通的感觉。

#### · 照明与平衡

与光照相比，照明的光亮变化是比较大的，从早到晚是心理上的开阔感则比其他东西更重要。反之，光照却有着照明没有的持久性。所以最近的设计者会同时使用光照与照明因素来装饰房间。

另外，为了与空间变化的差异相对应，人们就在窗户边上安装照明器材，但在白天，窗户边上的光照是不使用的，它能使空间有变幻感。光照是一种节约能源的好方法。

#### · Lighting index

In case of lighting, differently from illumination, brightness could change because of eyesight and climate, so illuminaion is not a desirable index. Accordingly, complete skylight illumination and daylight factor is used as an index of lighting.

#### · Openness

The function of window is related to energy's transmission, interception and psychological aspects. Generally, agreeable visual environment is very psychological aspect, and the one of the index is openness.

Our nation has thought of openness as important factor because of seasonal influence, summer. In addition, the outlook from a window supplements the interior narrowness and mitigates tension. Furthermore, it is good for periodical sense by exterior change and the connecting sense with outside.

#### · Lihghting and balance

The bright change of lighting is big compared with illumination, but psychological openness is better than the other things. Contrarily, illumination has expanded life time and life space that lighting doesn't have. From the new emerge as Atrium, the sub illumination is used for lighting subject, and lighting's illumination's design is used for illumination subject.

Besides, as a way of corresponding to the diversity of space change, lighting is used for the side of window, but at the daytime, the illumination for the side of window is not used, and it help a space changeable. It is good way of saving energies.

#### · Introduction of sunlight source.

Influxing sunlight source into the interior has an important meaning in that it can feel connection with outside

## • 太阳光源的采用

把太阳光源引入室内具有很重要的意义，可以使人觉得自己与外界相通。  
外部的变化不仅仅会产生一种生理影响。  
此外，人们对自然光线的渴求也很强烈，因此这种心理因素也不能忽视。

## ■ 照明方式

### • 预防强光照射

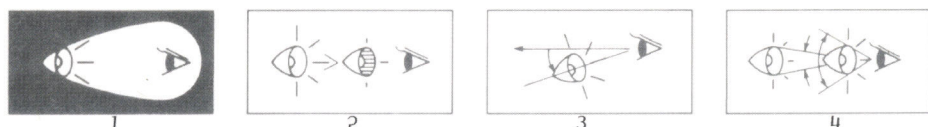
强光意味着由室内直射的太阳光或者照明器材等的直接反射引起的令人眩晕的视点或者视面。

强光会引起视力丧失和眼睛的不适或疲劳。

在欧洲人们认为预防强光和光亮安全是很重要的事情，但在我国人们却不是这样看。但是现在人们对这一观点的重视也在增强。

强光的产生与光源的位置、大小以及可视部分的数量有关，因此预防的基本原则就是不让光亮进入员工的视野中去，并调整窗户与员工之间的光源（如太阳光或者反射光）来避免产生强光。

详细地讲，光源直接处于人的视野中的强光可以通过在视点与光源之间连接一条线来预防，这条线与人的眼睛应呈一个30度的角。此外，反射的图像会在反射面才



along with the exterior change more than a physical effect.

In addition, man's aspiring for daylight is very strong, so a psychological factors should not be ignored.

## ■ The way of lighting

### • Prevention against glare

Glare means that a dazzling points or sides exist by direct reflection within a view through interior direct sunlight or lighting fixture.

Glare is the cause of a loss of eyesight and eyes' unpleasantness or its fatigue.

Prevention against glare along with the security of brightness is regarded as important in Europe, but our nation is not. But nowadays its importance gets increased because of the increase of works.

Glare's cause is related to location of light source, scale and number of visible parts, so the basic principal of prevention is to make brightness not to enter the view of workers into the sunlight source or reflected side by adjusting relationship of a relative site between light source of window and workers.

In detail, glare which source is seen directly within the field of vision can be prevented by making the line connecting a visual point and light source and an angle of one's eyes over 30 degree. In addition, the reflected



由于天花板上的日光灯而使中心的环境变得生动起来

This atrium's atmosphere is vivid because of bright sunlight source from the ceiling.

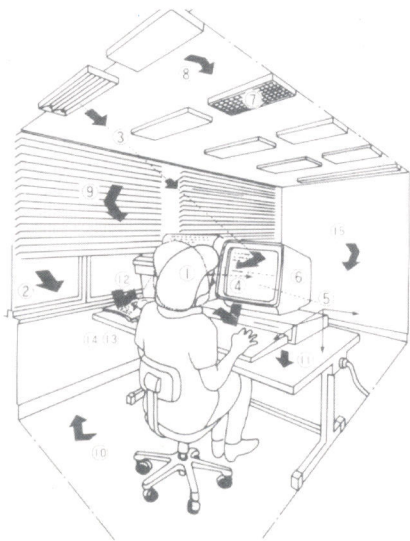
### 刺眼的情况

- 1.如果眼睛适应黑暗的环境
- 2.如果日光灯的亮度太高
- 3.如果日光灯源距眼睛太近
- 4.可见日光灯源过大

### ◇ The condition of dazzling

1. In case of eyes' conformity to darkness in the dark.
2. In case that illumination of sunlight source is high
3. In case of the sunlight source is closed to eyes
4. The parts which the sunlight source is visible is large





VDT工作环境的照射标准  
Illumination criterion of VDT works' surroundings

#### CIE(相干红外能量)指导

##### VDT工作环境核对应表

- 1.防止直射工人
- 2.消除日光的不良效果
- 3.防止过高的亮度
- 4.注意勿使键盘反射光线
- 5.注意周围环境的照明对比
- 6.VDT放置位置适当
- 7.辐射光源应选择较低亮度
- 8.天花板的反射率应大于70%
- 9.窗帘的反射率为50%~70%
- 10.地板的反射率约为30%
- 11.水平光为300~1000lx
- 12.应可以轻松阅读
- 13.报纸的侧面没有日光膜的反射
- 14.工作位置使阅读较为容易
- 15.墙壁的反射率为50%~70%

#### (CIE Guidance)

##### VDT works'enviornment checklist

- 1.To block glaring for workers
- 2.Removal of daylight 's bad effect
- 3.Prevention against high illumination
- 4.Caution of keyboard's reflecting illumination
- 5.Caution of surroundings' illumination contrast
- 6.The right location of VDT
- 7.The radiation of illumination is selected with a lower illumination
- 8.The rate of a ceiling's reflection is over 70%
- 9.Blind's reflection rate is 50~70%
- 10.Floor's reflection rate is about 30%
- 11.The horizontal lighting is 300~1000 lx
- 12.asily to read the papers
- 13.The papers' side don't have sunlight film's reflection
- 14.The site easily to see the papers
- 15.Wall's reflection rate is 50~70%

能看见，可以把反射源产生的强光直接反射到眼睛所在的那个方向。

为了预防强光的产生，使用带有橡胶板或者散光板的照明器材也是一个很好的方法。一般来说，如果照明与光照的关系最大，强光就最大。因此就需要正确安装照明器材来避免产生强光。

#### · 视频显示终端的照明条件

视频显示终端的工作环境以及OA的最新开发很引人注目。视频显示终端的工作有很多因素，但最重要的东西就是CRT（阴极射线管/电子束）屏幕，换言之，就是像键盘一样的垂直光线，必须限制垂直方向的光线。要注意水平和垂直方向的光线、房间的反射率以及照明器材的光亮限制作为视频显示终端的运转光照的标准。

#### · 任务及侧面光

天花板的照明器材都用于现有的办公室装饰中，换句话说，都使用一般的光照，但是“任务及侧面光”被采用以便产生舒适感和节约能源。既有照亮整个环境的全部光线也有根据个人的要求来调整的部分光线。

image is seen on the reflecting side, and Glare by the reflecting source is effective in making it reflect to the direction of eyes directly.

For the prevention against glare, lighting apparatus with rubber or diffused panel is good for it. Generally, if lighting gets higher in relation with illumination, glare is higher. So apparatus installation which can find a balance point is needed.

#### · Lighting condition of VDT works

The works environment of VDT along with the development of the recent OA is issuing. The works of VDT have many factors, but the most things are CRT screen, in other words, the vertical lighting like keyboard, papers should secured by restricting perpendicular side's lighting. The guidance of CIE regulating the encouraged value of horizontal's vertical side's lighting, the encouraged value of vertical side's lighting, the reflecting rate of rooms and the brightness limitation of lighting apparatus as the standard of VDT works' illumination.

#### · Task and ambient lighting

The lighting apparatus of a ceiling is used for the offices at the existing offices evenly, in other words, general illumination is used, but "task and ambient" is adopted in agreeableness and energy.

There are the entire lighting which lighten the whole of environment and the partial lighting which a private person adjust directly in task and ambient. But it is different from the existing



但它有别于现有的采光方式之处还在于它装有与众不同的照明装置，而且其功能也明显是独立的。

· 照明装置的作用与其周围所要达到的效果如下：

作为单独的控制调节功能，它可以改善灯光的效果，使OA的光线减弱，并易于处理个体的差异。另外，它使办公室设施的安排更为容易，尤其值得一提的是，它有利于节省局部照明所需的能量。

反过来说，如果周围光线变暗，它的光线也会减弱，以免引起刺眼的效果。如果采用OA橡胶而不是现在的这种，它可以使天花板的光线暗下来，但改善了办公室周围的环境，对人的大脑卫生会有帮助。

#### · 照明办法

由于办公室所承担的业务各不相同，这就要求一个适当的照明办法。下面照片显示的是几种照明方式构成图样，办公室空间根据光线分布的特点进行分类。

所采用的照明根据其作用和周围环境提供的模拟样图。

lighting in that it is equipped with exclusive lighting installation and its function is separated definitely.

Task and ambient's effect of lighting is the following.

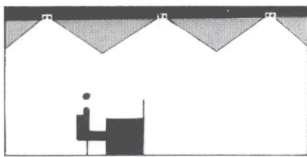
It gets improve the function of works as individual control regulate function, and gets lessen glare in OA and is easy to cope with a ripe age and individual difference. In addition, it is easy to lay-out of offices' equipment. Particularly, it is good to save energy in the necessary partial lighting.

Contrarily, it is noticeable point in glare of task light's prevention and getting darkness, in case that ambient light's lighting gets lower. In case of using a rubber of OA, compared with the existing one, it could make the ceiling dark, but it gets improve the surrounding's atmosphere of office space, and also it has effect on a mental sanitary.

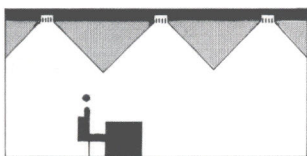
#### · Illumination method

As the business of offices get diversified, a functional lighting method suitable for the business is required. The following pictures show the example that the way of illumination composed of offices' space is classified according to the characteristics of light distribution.

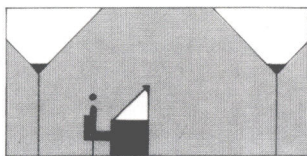
the applicable lighting gives the example of simulation according to task and ambient and the entire illumination by pictures.



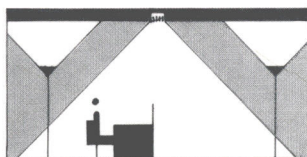
顶灯下部敞开情况下的全面照明  
General illumination opening the lower parts of ceiling light



顶灯照明设施安装橡胶的情况下的全面照明  
General illumination by ceiling illumination apparatus with a rubber



(如果周围的照明是直接和间接光) 作用和周围照明  
Task and ambient illumination (In case that surrounded illumination is direct and indirect lighting)



(如果周围的照明是直接和间接光) 作用和周围照明  
Task and ambient illumination (In case that surrounded illumination is direct and indirect lighting)

## ■ 颜色的设计(办公室要表现什么颜色?)

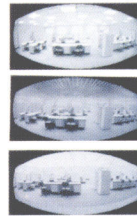
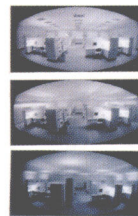
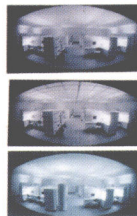
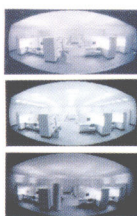
### · 办公室和颜色

迄今为止, 对一个办公室来说, 功能性和功效性被认为是重要的要素。所以, 办公室的颜色主要是木头和家具本身的颜色。办公家具和家用家具都以暗淡的颜色作现代化的形象。换句话说, 在办公室空间的布置中, 颜色设计实际上没有得到重视。颜色可以达到使人轻松的效果, 另外, 随着住宅不断的个性化, 办公空间需要有颜色进行调和, 或者从心理因素上考虑, 颜色还对减轻疲劳有一定帮助。

### · 颜色的识别

颜色特征的决定因素被称为颜色的三个属性、分别为亮度、色品和色度。亮度表示物体颜色的发亮程度、浓度代表颜色的清晰度、色度则显示其特性。

Munsell分别用数值、浓度和色调来显示颜色的亮度、色品和色度。



作用和周围照明  
Task and ambient illumination

全面照明  
General illumination

## The design of color (What color expresses an office?)

### · Office and color

Functionality and efficiency was regarded as important in an offices so far. Accordingly, the color of offices were mostly a wood-color, furniture color as it is. And colorless color symbolizing the image of modernization was applied to furniture and household furniture.

In other words, the color design practically was not considered in an office space.

Color has an effect on agreeableness, Furthermore, as residential characteristics gets important, it is necessary that the coordination of space should be made by color, or the color design should mitigate fatigue for the consideration of psychological aspects.

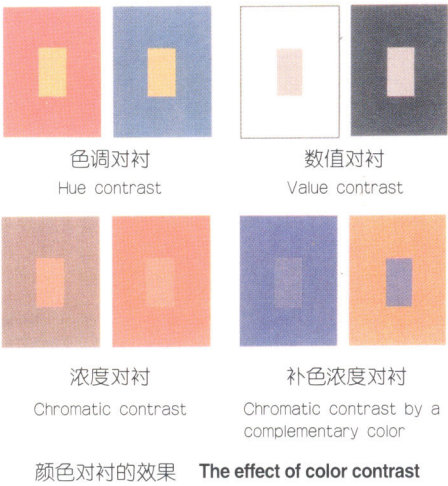
因此，识别颜色的方式是通过其三种属性进行，彩色为HV/C，如红色为7.5R 4/13.5。非彩色的标记为使用Nis的NV，例如白色被表示为N9.5。

· 颜色效果和其他要素

颜色对比是指两种颜色共同作用时其间的差异，根据颜色显示是同时的还是连续的而主要分为共时对称和连续对称。共时对称含有数值对称、色品对称、色调对称和补足对称。与此相反，同化作用是指周围几种颜色看起来非常相近。

2) 暖冷感觉  
长波长的红色、橙色和黄色等被称为暖色，短波长的蓝色和黑色被称为冷色。属于暖色的是那些使人兴奋、前进和扩张的颜色，而属于冷色的则是那些使人松弛、退却和收缩的颜色。

3) 颜色的轻重  
亮度高的颜色感觉上要轻，而亮度低的颜色感觉上要重。



· The mark of color

The decisive elements in color characteristics is called as colour three attribute of color, they are brightness, chroma and color. Brightness expresses the colour lightness of things, chroma marks clearness of color and color shows the characteristics of them.  
Munsell marks the attributes of brightness, chroma and color as value, chroma and hue.  
Accordingly, the way of marking color via its three attributes is chromatic color HV/C, For example, red is 7.5R 4/13.5. Achromatic color's sign is NV that Nis used, for instance, white color is marked as N9.5.

· Color effect and the other elements

Color's comparison is phenomenon that the difference of the colors is emphasized by the mutual influence of the two colors. It is largely divided into simultaneous contrast and successive contrast according to if the colors is shown simultaneously or successively.  
Simultaneous contrast, have value contrast, chromatic contrast, hue contrast and complement contrast. On the contrary to this, assimilation means a phenomenon that looks like similar to the surrounded colors.

2) Warmness and coolness sensation  
The long wavelength's red, orange and yellow color etc. is called as warm color, and the short wavelength's blue and dark blue is called as cold color. The circle of warm color is exciting color, advancing color and expanding color, and the circle of cold color is relaxing color,



#### • 4) 面积的效果

面积较大的颜色显得比较清晰，所以，如果大面积的颜色使用低色样，应注意它的亮度和色品值将变高。

#### • 颜色的协调

颜色的协调有三种，根据蒙·斯宾塞的理论，对称协调表示两种颜色的对立关系，相似协调表示两种颜色关系相近，统一协调表示两种颜色被看作同一种。

同时，颜色协调取样来自于自然色圈。所以，色彩设计在自然色圈中是很常见的。

#### • 颜色设计

在颜色设计中首先要确定与空间的用途和环境相适应的颜色形象，然后根据颜色协调来决定基色，最后决定详细的颜色。

- 主色：用于墙壁、天花板和地板面积较大的空间。
- 配色：建筑设计中用于家用家具或办公室家具。
- 强调色：活动物品如OA、电话等，规模较小，使用频率较高。一般的选择顺

retreating color and contracting color.

#### 3) Heaviness and lightness

A color whose brightness is high is felt light, and its brightness is low is felt heavy.

#### 4) the effect of area.

A color whose area is large looks clear. Therefore, in case that a lower color sample is applied to the color of a large-scale area, it is cautious that its brightness and chromatic value get higher.

#### • Harmony with colors

There are three kinds of color's harmony. By Moon's Spencer, a contrast harmony expressing the contrast relation, a similar harmony of two color's close relation, and identical harmony that two colors are recognized the same.

In the meantime, the example of the colour harmony is from natural color circle. Accordingly, colour scheme is common in natural color circle.

#### • Color design

The order in color design is firstly setting up the image of color suitable for the use and the atmosphere of space, after then, the basic colors is decided by considering harmony with colors and finally, the detail colors is selected.

- Dominant color : it is used to wall, ceiling and floor of space whose area is large.
- Assort color : Architecture application as a household furniture or furniture.
- Accent color : movable things as OA, telephone and the scale is small, and its frequency of