

BBA

Round Duct **Grilles**

Description

The BBA type grilles are designed for round duct applications. They can be used for supply or extract air.

Properties

The BBA type grilles have adjustable blades. For supply air purposes, they are characteristically suitable for horizontal air throws. Where "Coanda effect" is required, they should be installed close to the ceiling. The blades are easily and individually adjustable from the front of the grille. The blades can be single or double rows, depending on the request.

Materials

The frame and the blades are manufactured from ETIAL-60 norm aluminium extruded profile.

Surface Treatment

The surfaces of the grilles are first cleaned, then treated with chromating process; after which, are painted electrostatically, with 20% gloss RAL 9010 (white) as standard. Other colours are also available upon request.

Accessories

Damper with opposed blades

Depending on application characteristics, an opposed blade damper can be installed on the back side of the grille. This damper is a separate item which can be operated by its special tool from the face of the grille. Opposed blade dampers are manufactured from ETIAL-60 norm aluminium extruded profiles. To prevent reflection, they are painted RAL 9005 (matt black) as standard.

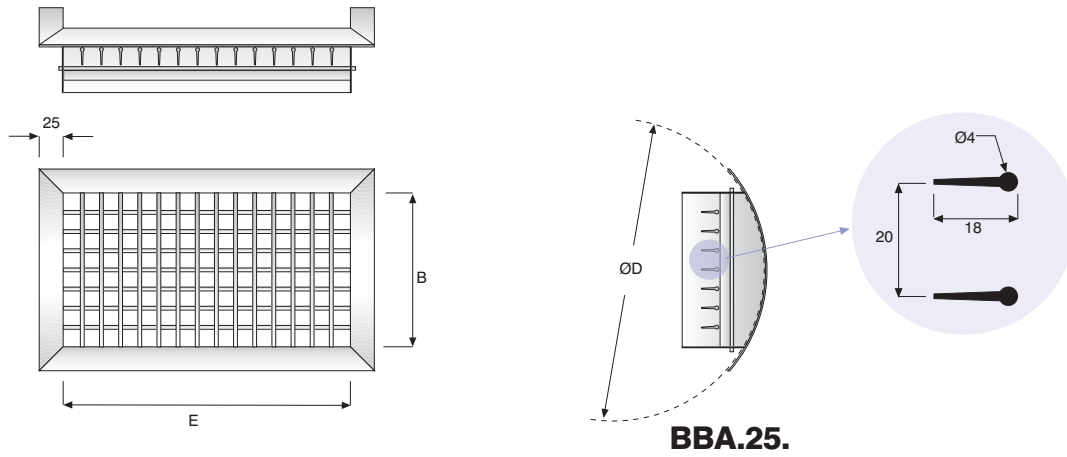
Damper with parallel blades

Depending on application characteristics, a parallel blade damper can be installed on the back side of the grille. This damper is a separate item which can be operated by its special tool from the face of the grille. It can also be manufactured as fixed to the grille frame. Parallel blade dampers are manufactured from ETIAL-60 norm aluminium extruded profiles. To prevent reflection, they are painted RAL 9005 (matt black) as standard, if manufactured separately. If manufactured as a unit with the grille, then they are painted the same colour with the grille.

Second row of blades

A second row of blades can be installed behind the front main row, and on a separate frame. These blades are also made from ETIAL-60 norm extruded aluminium profile and are painted the same colour with the grille. The second row option is advised to be used for supply air.

Dimensions



BBA.25.

Dimensions

Standard Dimensions

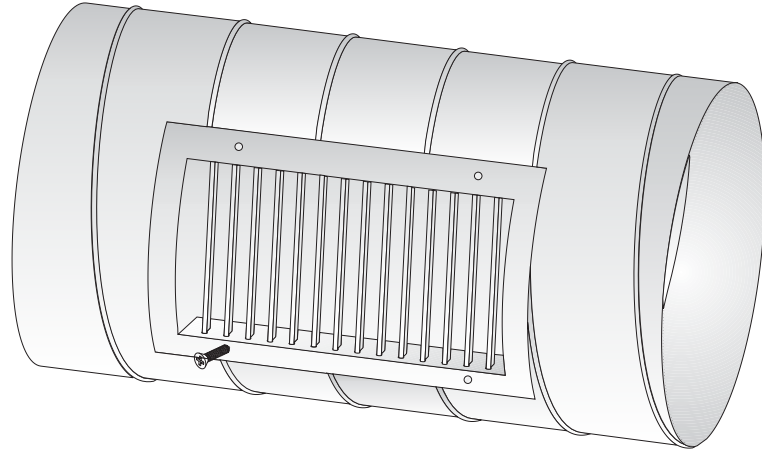
Double-Row Round Duct Grilles Net Area ($A_{eff.}$) chart (cm²)

		B (mm) Must be less than R												
		100	200	300	400	500	600	700	800	900	1000			
E (mm)	100	64												
	200	128	256											
	300	192	384	576										
	400	256	512	768	1024									
	500	320	640	960	1280	1600								
	600	384	768	1152	1536	1920	2304							
	700	448	896	1344	1792	2240	2688	3136						
	800	512	1024	1536	2048	2560	3072	3584	4096					
	900	576	1152	1728	2304	2880	3456	4032	4608	5184				
	1000	640	1280	1920	2560	3200	3840	4480	5120	5760	6400			
	1100	704	1408	2112	2816	3520	4224	4928	5632	6336	7040			
	1200	768	1536	2304	3072	3840	4608	5376	6144	6912	7680			

Single-Row Round Duct Grilles Net Area ($A_{eff.}$) chart (cm²)

		B (mm)B (mm) Must be less than R											
		100	200	300	400	500	600	700	800	900	1000		
E (mm)	100	80											
	200	160	320										
	300	240	480	720									
	400	320	640	960	1280								
	500	400	800	1200	1600	2000							
	600	480	960	1440	1920	2400	2880						
	700	560	1120	1680	2240	2800	3360	3920					
	800	640	1280	1920	2560	3200	3840	4480	5120				
	900	720	1440	2160	2880	3600	4320	5040	5760	6480			
	1000	800	1600	2400	3200	4000	4800	5600	6400	7200	8000		
	1100	880	1760	2640	3520	4400	5280	6160	7040	7920	8800		
	1200	960	1920	2880	3840	4800	5760	6720	7680	8640	9600		

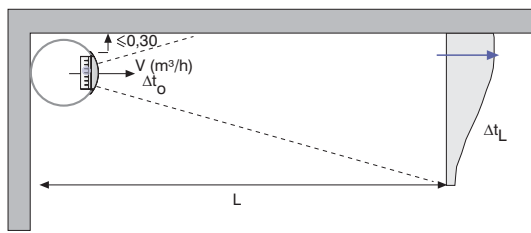
Duct Installation



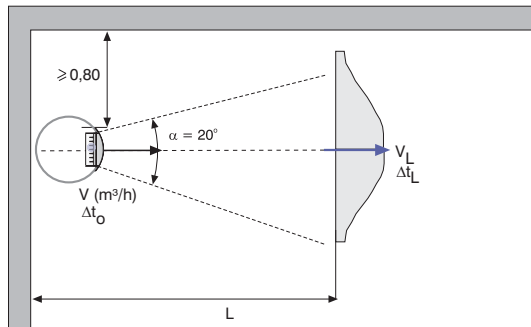
A set of $\varnothing 4.2 \times 38$ mm screws, painted the same colour, are given with the product.

Nomenclature

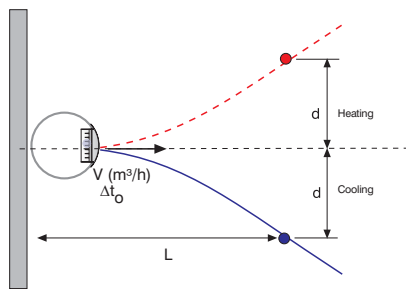
With ceiling effect



Without ceiling effect



Heating & Cooling air throw



A_{eff}	Effective area (cm^2)
v_{eff}	Effective distance velocity (m/s)
v_L	Velocity at distance L
Y	Spacing between grilles (m)
d	Vertical deflection of air (m)
V_T	Total air flow rate (m^3/h)
Δt_L	Difference between core and room temperature at distance L ($^\circ\text{C}$)
Δt_o	Difference between supply air and room temperatures ($^\circ\text{C}$)
L	Throw length (m)
α	Air discharge angle ($^\circ$)

Technical Data

NOTE:

This chart is valid for the condition that the top of the grille is closer than 300 mm to the ceiling. For farther locations, throw length must be multiplied by 0.7. Pressure loss and sound power level values are valid for 100% open damper position. Refer to table below, for different blade angle settings.

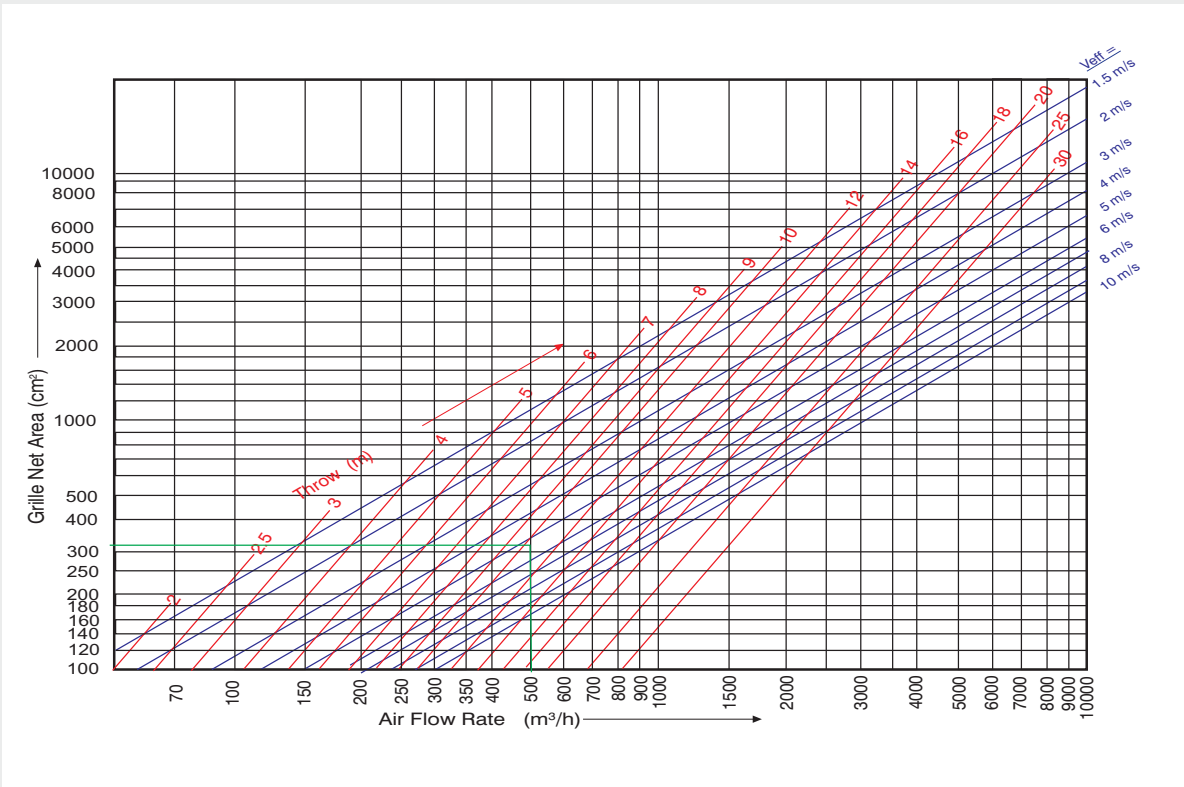


Table of coefficients for various blade angles

Horizontal blades (°)	0°	0°	0°	45°	90°	45°	90°
Vertical blades (°)	0°	45°	90°	0°	0°	45°	90°
Throw length(m)	x 1,0	x 0,7	x 0,5	x 0,7	x 0,5	x 0,5	x 0,25
Pressure loss (Pa)	x 1,0	x 1,1	0 1,2	x 1,1	x 1,2	x 1,1	x 1,5
Sound power level dB (A)	-	+ 1	+ 3	+ 1	+ 3	+ 1	+ 6

Supply Air

V _{eff.} (m/s)	Pressure loss (Pa)	Sound power level dB(A)
2	3	<20
3	7	20
4	13	28
5	20	35
6	29	40
7	37	43
8	44	47
9	60	50
10	80	55

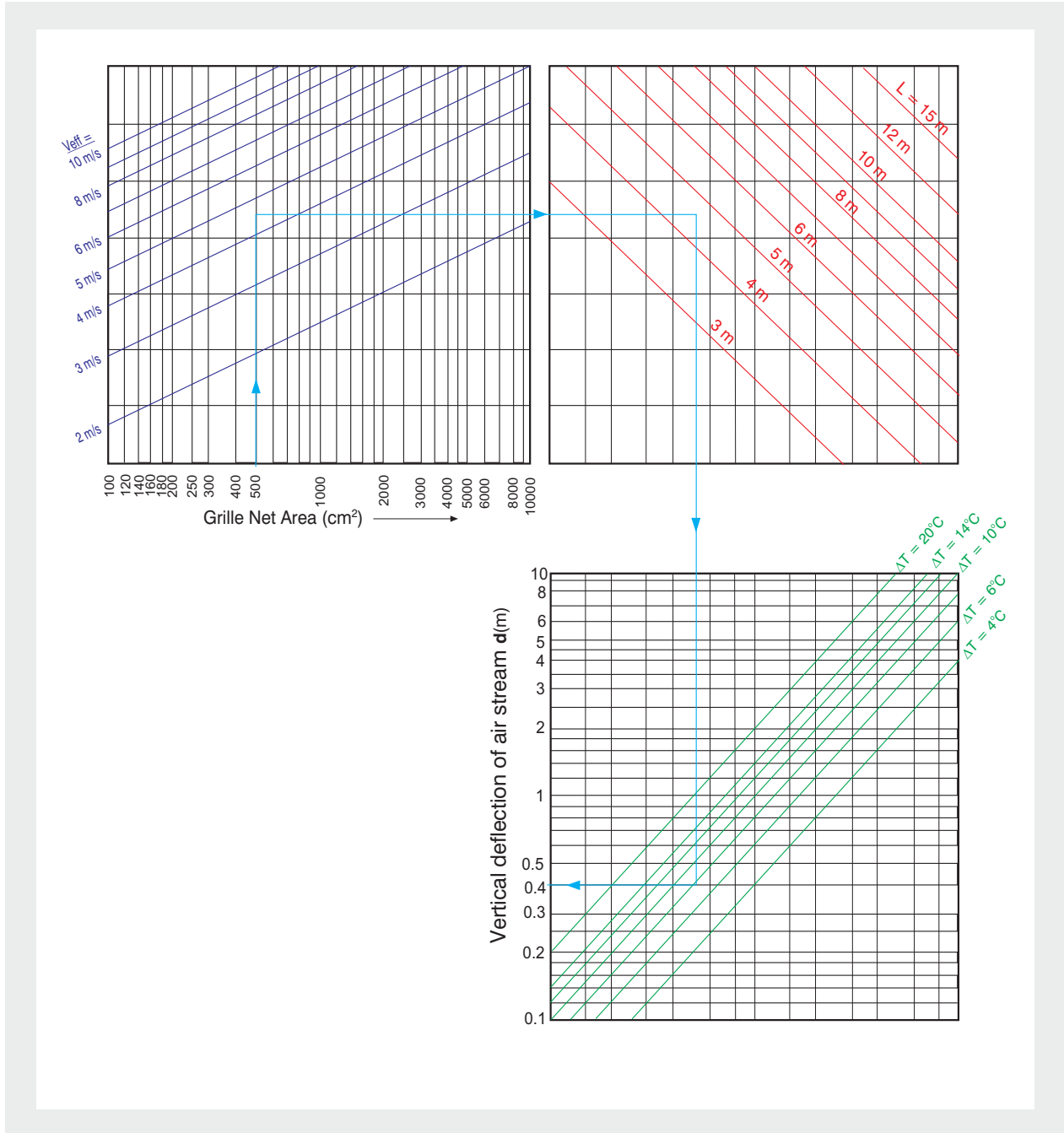
Extract Air

V _{eff.} (m/s)	Pressure loss (Pa)	Sound power level dB(A)
2	1	<20
3	3	20
4	5	23
5	8	33
6	12	38
7	17	42
8	21	45
9	30	48
10	36	51

Technical Data

NOTE:

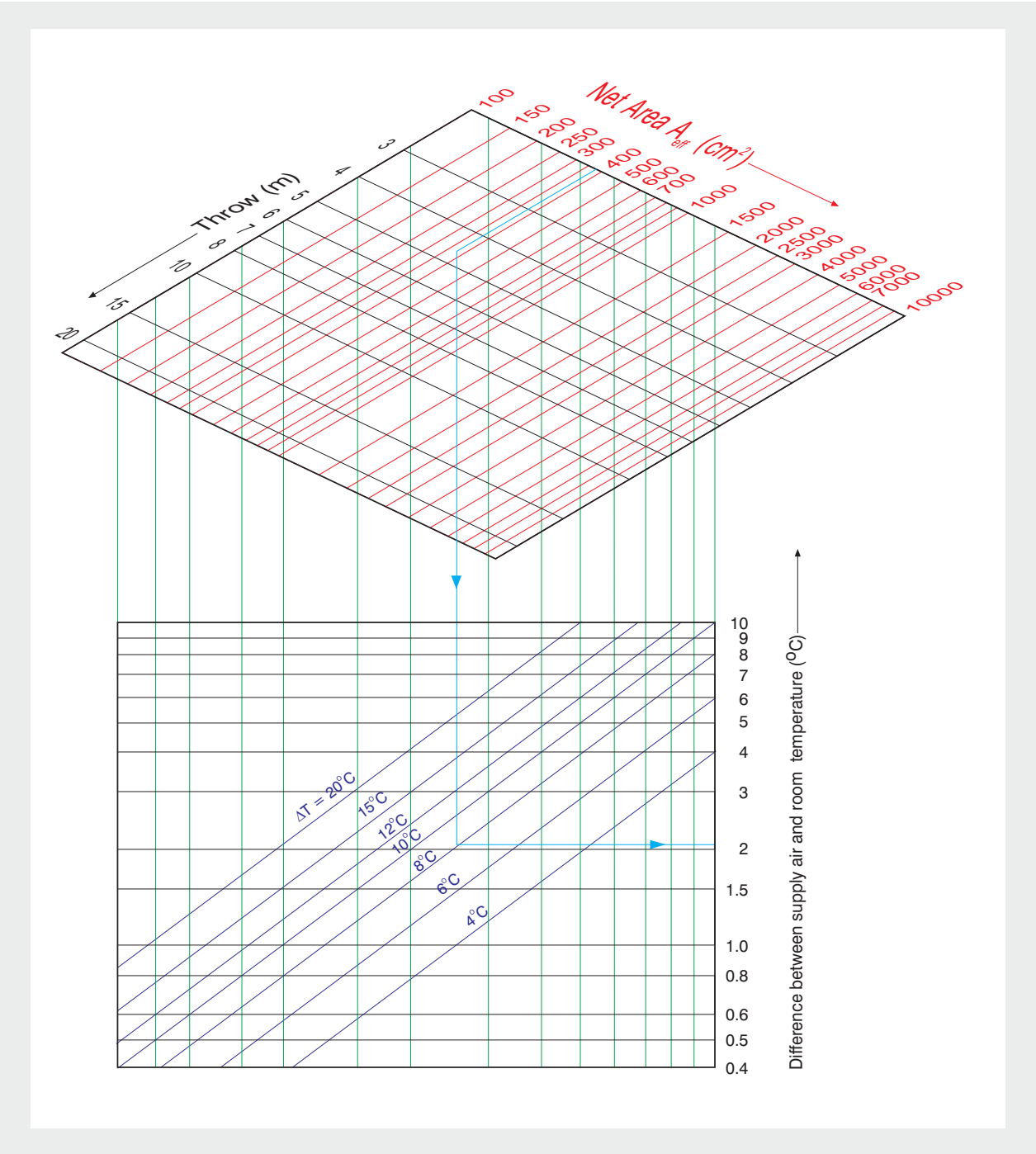
This chart is valid for the condition that the top of the grille is located farther than 300 mm to the ceiling. Deflection (d) is upwards for heating and downwards for cooling. Refer to table given, for coefficients of different blade angles.



Technical Data

NOTE:

This chart is valid for the condition that the top of the grille is closer than 300 mm ceiling. For farther locations, the temperature gradient value must be multiplied by 0.7



Specification Text

Air grille for wall or duct installation. The grille will be manufactured from ETIAL-60 norm aluminium profiles, and chromated; then will be painted to ordered request with electrostatic powder paint and a minimum thickness of 60 μ . The grille will be composed of two parts, the frame and the blades. The blades will be easily adjustable from the face of the grille. Optionally, opposed or parallel blade dampers

will be installed at the back of the grille. The dampers will be manufactured from ETIAL-60 norm aluminium profile, and painted. The dampers will be adjusted from the front of the grille by its special tool (opposed blades) or by a small lever arm (parallel blades). Optionally, the installation subframe will be given with the product.

Order Code

Model	BBA.25.AA.1 1-300 x 200 x ØD-9010	
Frame	25 mm	E x B x ØD (mm) Refer to page 3
Accessories	AA..Single Row Blades AD..Double Row Blades PA..Single Row and Parallel Blade Damper PD..Double Row and Parallel Blade Damper SA..Single Row and Sliding Damper SD..Double Row and Sliding Damper	Indicate RAL Colour Code
Installation	0.....Without Screw Holes 1.....With Screw Holes	Standard Dimensions
Installation Accessories	0.....Without installation subframe	
		Colour Code