

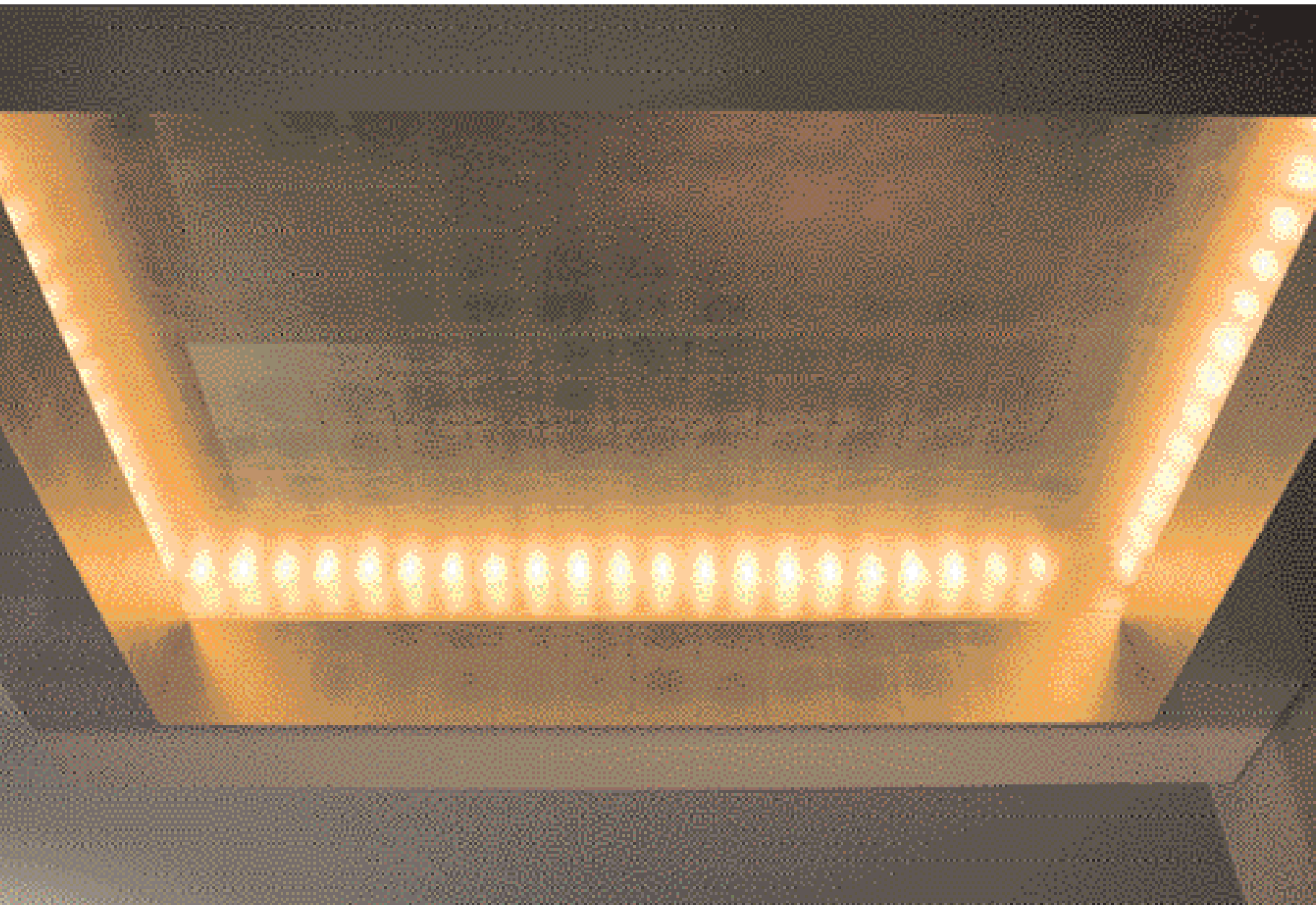
Cosy without incandescents

Creating a pleasant atmosphere without incandescent lamps using modern lighting control equipment.

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Photos: Bernd Nöring

The Knodel residence, a private villa in Bergisch Gladbach, Germany is a fine example of how lighting can be designed to create differentiated spatial experiences and cosy atmospheres without using conventional thermal radiators. This is a project that does not simply substitute incandescent lamps for LEDs or compact fluorescent lamps, but applies low-voltage halogen lamps and a BUS system. It is both exemplary and future-oriented, because the ban on general service lamps will mainly hit private households.



The gold leaf ceiling surface inside the cove in the ceiling element above the bar in this modern villa lends this part of the space an intimate, warm quality.

Every professional lighting designer is aware of the basic problems involved when designing the lighting for residential projects. The projects are generally relatively small, the solutions highly individual, and the lack of any repeat factors means that they end up as more of a favour for the private client rather than economically interesting. Such projects can be dealt with well, however, if the constellation of the design practice is right.

Take a.s.h. in Cologne, Germany, for instance. The practice, which offers interior architecture and lighting design concepts, was founded in 2006 and has already scored top points on a number of projects. It is run by three young women who, thanks to their different professional backgrounds, can provide a complete "design package", whereby lighting is an integral part of the overall planning. The three designers work together on the interior architecture and lighting, their different approaches contributing to creating the harmonious overall result. Architect Astrid Kölsche, interior architect Silke Pabelick, and qualified designer Heike Bertschat, who has been working as a lighting designer for the last twelve years, collaborate on a project separately step by step and then pull the overall project together during a series of concerted meetings. The result is a well coordinated project where architecture and light interact, and the interior architecture, and especially the materials, blend with the electric lighting to create the desired whole.

The electric light responds to the carefully selected materials, using them as reflective surfaces and bringing out their respective qualities, thus helping to subtly divide the space into zones. It is especially in this context that one feels quite strongly that the design of the interior architecture and the lighting design come from one and the same design practice and are harmonized to perfection.

The case study presented here is a private residence designed by Berlin-based architect Helga Falkenberg. It is clear when approaching the building that the architecture and the lighting work well together.

The minimalist architecture with its clear formal language requires the light to be applied with care and for calculated effect. This is already evident in the entrance area, where the guide wall to the left of the front door is endorsed by a row of inground luminaires. In the porch the lighting switches from ground to ceiling, with light emitted by an asymmetrical recessed wall luminaire. On entering the house, the visitor finds himself in an extensive lobby. Different lighting components and materials create zones within the space, which in turn facilitate orientation. The guide wall inside the building is located on the opposite side from at the entrance. Cove lighting using low-voltage technology separates the walls from the ceiling – all surfaces are painted matt white – and guides the visitor into the main living space.

Adjustable double downlights re-

cessed deep into the ceiling provide glare-free ambient lighting and accentuate decorative objects without attracting undue attention. When only this lighting component is switched on, the way in is obvious. Recessed adjustable spotlights are focussed on the cloakroom. The lighting on the stairs to the left is limited to low-level asymmetrical recessed wall lights. This concept underlines the fact that the staircase leads to the private rooms in the house.

The living-room itself is another world altogether. In the daytime, the room looks more spacious thanks to elements such as the fireplace or the bar, which structure the space without subdividing it. The extensive glazed surfaces allow daylight to enter the space from all directions. Delicate curtains control the influx of sunlight in a simple but pleasant way. The daylit corner of the living space faces north-west and receives daylight from two directions and from above. The section is painted white – as one would expect. Apart from a table lamp and the discreet but flexible shelf lighting there is no electric light. After dark, this part of the space is therefore considerably transformed. It becomes a cosy space to rest and relax in.

The next zone that is accentuated through artificial lighting is the fireplace, which is illuminated via surface-mounted downlights. The grey grained stone fireplace both absorbs and reflects the light, and directs a certain portion of light onto the horizontal surfaces, thus creating a pool



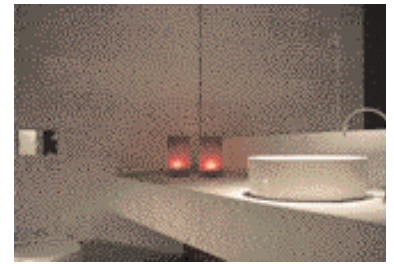
The guide wall at the entrance receives soft light from a series of diffuse inground luminaires. The line of luminaires underscores the path to the front door.



The sculpture in the alcove is backlit for effect. This backlighting effect occurs in nature through sunlight and adds drama. Additional downlight to the sculpture renders its structure and texture legible.



The library section features cherry wood walls and shelving as a contrast to the dark floor and white ceiling and fireplace wall. The space is nevertheless perceived as a whole. After dark the electric light accentuates the wooden walls, lending this part of the space more weight.



Two 50 watt low-voltage downlights are focused onto the hand basin and the light natural stone surround, using their diffuse reflective qualities to create ambient light.



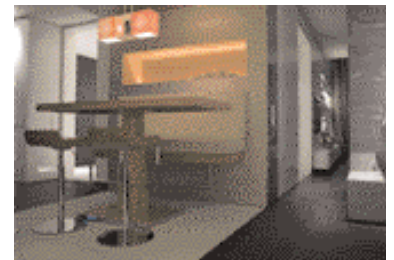
A warm welcome: the lobby disposes over different kinds of lighting. Cove lighting defines the architecture and guides people in, while low-voltage downlights accentuate the decorative objects.



Translucent curtains are used to gently shield the extensive glazing. They filter and change the quality of the daylight to a large extent without blocking out the windows altogether. After dark they are gently illuminated by recessed floor luminaires.



The bathroom ceiling is void of luminaires except above the bath and the wash basin. The free-standing fibre optic luminaire is both decorative and functional; the candles are part of the lighting concept.



Through the application of different materials and a quiet lighting concept the space between the kitchen and the living-room becomes an eating area for a quick breakfast or an aperitif with guests while the finishing touches are being put to the dinner. The cosy glow in the wall niche makes for a relaxing atmosphere.



By daylight the living-room comes across as open and spacious. When the electric light is switched on after dark the room takes on a clear structure. The electric light is applied to create new situations rather than to imitate natural light.

of light in a space that otherwise features dark wood. Since there is no suspended ceiling, surface-mounted downlights were applied. The designers purposefully opted for black to stand out against the discreet shades of grey and clean white.

Together with other architectural details, these black downlights serve as a link between the lighter colours and surfaces in the daylight corner and the fireplace area and adjacent bar, which is furnished almost entirely in dark oak. The box-frame mounted onto the ceiling above the bar has received cove lighting. The inside surface of this ceiling structure is lined with gold leaf, which further enhances the warm glow emitted by the cove lighting. The lighting makes for an interesting atmosphere somewhere between festive and intimate – an effect that many public bars could learn a thing or two from! The bar section is complemented by an open shelf unit where the bottles are stored. The shelf is backed by a glowing orange glass panel – a welcome touch of colour in otherwise somewhat neutral surroundings.

The large dining table set on one side of the fireplace is lit by ambient light only. The client did not want to have an additional pendant luminaire over the table for fear that it would divide the space too much. The space between the dining area and the kitchen is also furnished with a table – this time a counter-top table – with an unmistakable fast food character. This gap-bridging solution is further underlined by the choice of materials. A warmly lit niche in the rear wall accentuates the nature of this part of the living-room. The setting is topped by a pendant fixture equipped with tungsten lamps.

Access to the more private sections of the house on the upper floor is via a staircase with very low-level lighting. Asymmetrical recessed wall lights are mounted centrally above every second step to light the way. The recessed depth is very shallow and the light directed solely down-

wards. Light grazes over the steps rendering them easily legible in spite of the low illuminance. The top of the stairs opens up into the library, attracting visitors' attention there first and away from the bedrooms.

The library is a fine example of the way a space can be divided into zones using light and different materials. The warm cherry wood library walls form a right angle and are built into the space in front of the load-bearing wall. One wall contains the shelving, the other a sliding door that leads to the hall. The cove lighting around the ceiling underlines the distancing of the built-in element from the wall. Almost paradoxically, the fireplace forms a further layer against the bookcases.

Daylight pours into the client's bedroom from both sides through the room-high glazing. The character of the space changes completely after dark: bedside luminaires at the head of the bed provide intimate light that renders the bed a softly lit, tranquil island. The inclined rear wall is illuminated via uplighters located in the floor near to the wall. The curtains can be drawn over windows and walls, as required. When they are positioned to hang in front of the wall, they are lit softly and contribute to the quiet atmosphere. The luminaires follow the wall on both sides out to the patio. When the curtains are open the glass wall seems to disappear.

The dressing room, which receives no direct daylight, has a diffuse false daylight ceiling. This is the only room where warm white fluorescent lamps are applied to provide intensive, uniform light for practical purposes. The on-suite bathroom is comparable to a small spa.

The light-coloured floor contrasts with the dark walls and the tiles in the shower. The ambient light is provided by the luminaires mounted above the bath and wash basin using the white ceramic surfaces as reflectors. Apart from the fibre optic rods there is no further electric light in the room. The candles in the bed-

room are part of the lighting design concept as are the lanterns in the guest bathroom on the ground floor. Here the wash basins are also used as reflectors, with light directed onto them from a downlight in the ceiling.

In this project the clear formal language of the architecture is translated in detail into the interior and supported by the careful selection of a wide range of materials. The light underlines the qualities of the materials and their collocation in the space. Warm surfaces are used as reflective surfaces, thus conveying their quality to the entire space.

Warm colour temperatures are used throughout to support the optic and haptic qualities of the materials. The lighting design responds to the architecture and follows the intention of the interior architecture. Basically two kinds of lighting have been applied: architectural lighting, which is formally discreet, reinforces the clear lines and forms, and supports the desired atmosphere; and decorative lighting elements, such as luminaires that are objects in the space like pieces of furniture, or applied for ornamentation. The principles of the first kind of lighting have, of course, been attuned to meet the requirements of this specific project, but from the point of view of their typology could be transferred to other projects. In the near future, even more regard will be paid to the correlation of lighting quality and materials. In other words, this project does indicate specific trends that we will be seeing more of in the near future. This project would not work with compact fluorescent lamps. More golden reflectors for all types of technical and decorative luminaires are also likely. We will therefore not only see reactions to the phasing out of incandescent lamps in the light source sector, it will also affect luminaires and surfaces.

Intelligent combinations of this kind allow cosy atmospheres to be created without the good old incandescent lamp. That having been

The electric lighting in the daylight corner of the living-room focuses on the contents of the shelves.



said, attention should be paid to making sure all luminaires are dimmable and the lighting scheme has a good-quality lighting control system. The strong reaction from the lighting design world that phasing out general service lamps will lead to many problems related to human health and well-being is justified. But in the private sector at least the use of halogen lamps, especially the dimmable version, can replace conventional incandescent lamps. This

should also be the approach for public projects, at least where specific atmospheres are desired, instead of immediately opting for compact fluorescent lamps with all their inherent problems, or applying LEDs without professional advice. The project described above shows that this is indeed possible. For all projects aiming for that "feel-at-home" quality, this is feasible. For all lighting designers who are able to convince their clients that humans' feelings of

well-being are more important than economic efficiency, this is the right way, and worth fighting for.

Project team:

Client: Reinhold Knodel

Architect: Helga Falkenberg, Berlin/D

Interior architecture and lighting design:
a.s.h., Cologne/D

Products applied:

Cove lighting: agabekov

Downlights: "minidown" and "down", Kreon

Uplighters: "up", Kreon

Recessed wall luminaires: "side", Kreon

Free-standing luminaire in bathroom:

"bamboo", Viabizzuno
