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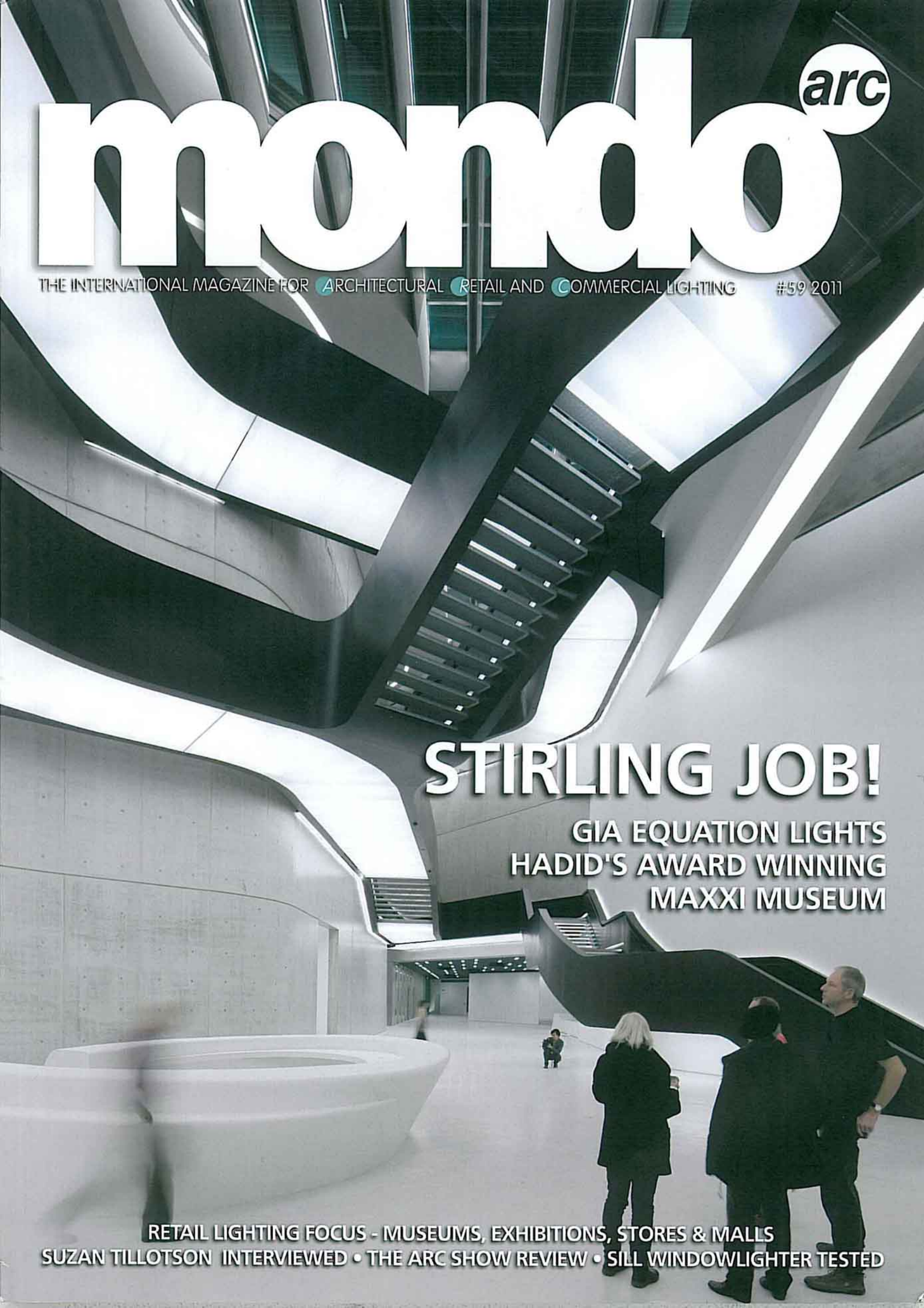


STIRLING JOB!

GIA EQUATION LIGHTS
HADID'S AWARD WINNING
MAXXI MUSEUM

RETAIL LIGHTING FOCUS - MUSEUMS, EXHIBITIONS, STORES & MALLS
SUZAN TILLOTSON INTERVIEWED • THE ARC SHOW REVIEW • SILL WINDOWLIGHTER TESTED

MAXXIMUM IMPACT

The Stirling Prize winning MAXXI Museum in Rome, designed by Zaha Hadid, is one of the most startling pieces of architecture to emerge in modern times. Mark Hensman of GIA Equation explains the concept of the lighting design

Pic: Iwan Baan

"It is rare, as a lighting designer, that one gets the opportunity to work on a project with the genuine mixture of complexities contained within the MAXXI project - a mixture of complexities that resulted in what was such a significant architectural statement.
There is little doubt that Zaha Hadid Architects has a reputation for producing distinctive and iconic architectural forms but MAXXI, as was the case with BMW Leipzig, (a previous project that we worked on with the same practice) is founded on strong and relatively straightforward functional principles.
So, for the lighting designer fortunate enough to be conceiving a lighting approach for MAXXI, this was our natural starting point; one that supported the primary architectural and functional philosophies being developed for the project.
This is our concept..."

THE BUILDING FORM

Much has been written and spoken about the shape and form of the MAXXI building, its derivation and whether the inherent architectural style of the architect is too present in the final result. The simple fact is that it owes much of its dynamic expression and fluidity because of a simple response to the urban grain and fabric of its particular location in Rome. As a design team member that was around early in the process, GIA Equation was fortunate enough to witness this process in action.
Therefore, the development of a clear architectural response within the lighting presentation to reinforce the sinuous nature of the building, to accentuate the building lines and geometries, is solidly founded in this initial principle that was being developed by Zaha Hadid Architects.
An obvious expression in this respect is the high level linear lighting treatment that was developed as part of the daylight and roof light design. Not only did this treatment provide artificial light in a manner that was cognisant of the character of the daylight performance, it immediately created the benefit of accentuating building lines and forms. It is thus a direct expression of the urban response of the building.
Another major benefit of this element is that is it provided an integrated, primary platform within the lighting installation. This was another important principle of our approach; to simplify the lighting presentation and pare it back to core functions and applications across the scheme.

CIRCULATION

The basis of this 'stripped back' approach was again about allowing the building to clearly express itself, but it was also to do

Pic: Iwan Baan

JAPANESE

イタリア初の国立現代アート美術館、Museo Nazionale delle Arti del XXI Secolo(国立21世紀アート美術館、MAXXI)は、彫刻的な建築表現と言えるでしょう。ザーハ・ハディッド・アーキテクツが、「ドリフト(漂流)」する集合体と空間をコンセプトに手がけたこのダイナミックな建築は、GIA Equationによる自然光と人工照明を織り交ぜた照明デザインにより引き立てられています。

内陸市街地の、テベレ川の流れ、住宅地、倉庫の狭間に佇む陸軍兵舎跡地に建てられたMAXXIの薄灰色の建物は、遠くからでもよく見てとることができます。直交する都会のグリッドパターンを突き破る、カーブを帯びた輪郭が、訪れる人を魅了します。
剥き出しのコンクリートの建物が、広い前庭に交錯する光と影に彩られ、まるでひとつの巨大な彫刻物であるかのように見えてきます。建物に差し込む太陽の光によってあざやかに描き出される模様、さまよう影のライン、ゆるやかにつながる内部と外部。上部から吊り下げられた構造物は互いに重なり合い、張り出し屋根となり、階段、通路、ブリッジが交差する、建物と同じ高さに設計されたホールであるホワイエに、訪れる人々を導いてゆきます。

CHINESE

意大利首个当代艺术国家博物馆(Museo Nazionale delle Arti del XXI Secolo或MAXXI)是一座富于表现力的建筑雕塑。
建筑师Zaha Hadid以'流动'概念(流动的物质与空间)赋于整个建筑以动态性,这一点通过GIA Equation方案中自然和人工光的设计得以强化。
浅灰色MAXXI坐落于市中心北部边缘的军营原址,在台伯河弯、居民区和仓库之间,远远望去十分醒目。其垂叠、弯曲的轮廓在城市的正交网格背景中脱颖而出,对游客具有不可思议的吸引力。
这座混凝土建筑看似一座巨大的雕塑,并在广阔的前部广场上交替形成装饰性光影。日光照耀并穿过建筑,勾勒出明亮造型,而阴影在建筑内部、外部及整个区域蜿蜒穿行。巧妙相连,悬挑结构景做突出屋顶,引领游客进入一座与建筑等高的大厅——与交叉楼梯、过道和吊桥相交错。

FRANÇAIS

Principal musée d'art contemporain d'Italie, le Museo Nazionale delle Arti del XXI Secolo, ou MAXXI, est uns sculpture architecturale expressive. La nature dynamique de ce lieu qui donne corps à notion de « glissement » entre les masses et les espaces chère à Zaha Hadid Architects est mise en valeur par l'éclairage naturel et artificiel mis en place par GIA Equation.
Situé à l'emplacement d'anciens baraquements militaires au nord de la ville intérieure, entre la zone résidentielle du Tibre et des entrepôts, le MAXXI et sa structure gris clair sont visibles de loin. Les contours enrobant et courbés cassent la grille urbaine orthogonale avoisinante, attirant les visiteurs comme par une force magique.
Le bâtiment en béton apparaît comme une gigantesque structure décorée alternativement par un jeu d'ombres et de lumières. Le soleil crée des motifs brillants sur et dans la structure tandis que des lignes d'ombres courent sur sa surface et se retrouvent subtilement, à l'intérieur comme à l'extérieur. La structure semble relever le toit pour guider le visiteur à l'intérieur du foyer, un hall aussi haut que l'ensemble du bâtiment, entrelacé d'escaliers, passages et ponts croisés.

DEUTSCH

Italiens erstes nationales Museum für zeitgenössische Kunst, das Museo Nazionale delle Arti del XXI Secolo, oder MAXXI, ist eine ausdrucksstarke Bauplastik. Die dynamische Art dieser verkörperten

with the development of a lighting response within MAXXI that would aid and communicate circulation. This indeed, became one of the primary thrusts of the lighting concept.
Clearly, as a public gallery and arts based building, one of the key requirements is that way-finding and direction should be relatively easy, ensuring a positive and responsive experience for gallery visitors.

The creation of a specific lighting language around the building's circulation was therefore a natural development of the lighting design - it is the simple use of light as a communication medium.
This conceptual principle emerged as a sequence of back illuminated panels and integrated details around the various circulation elements within the building, clearly defining a desired circulation methodology.

TECHNICAL PERFORMANCE
In addition to dealing with these primary, functional aspects of the building, there was of course the need to provide optimal lighting conditions for the display and illumination of art. There is a nice overlap in this area with some of the 'ambient' treatments described above, in particular the high level artificial roof lighting, providing a diffused base upon which to build these lighting functions. The nature of these 'building' lighting treatments provided good basic gallery illuminance, particularly when coupled with other direct lighting arrangements.
From very early on, a design intent developed to combine lighting functions wherever possible. Again this was a response to the paring down of the installation and

In parallel, rows of BEGA recessed wall luminaires and matching BEGA bollards provide the same contrast of material and colour to the bright swinging surfaces and elements of architecture outside. An impressive architectural detail by day, they become a convenient lighting system by night. They create glare free light on ground surfaces. BEGA installation housings and plaster frames guarantee perfect installation in sophisticated exposed concrete surfaces

Form von Zaha Hadid Architects' Vorstellung von einem 'Drift' – von Massen und Räumen, die treiben – wird unterstrichen durch die Designelemente des natürlichen und künstlichen Lichts in einem Projekt von GIA Equation.
Es ist angesiedelt in dem ehemaligen Platz der Kasernen am nördlichen Rand der Innenstadt, zwischen dem Tiberbogen, dem Wohngebiet und den Lagergebäuden, die hellgraue Struktur der MAXXI ist weithin sichtbar. Die übergreifenden, geschwungenen Umrisse setzen sich von dem orthogonalen städtischen Rasterbild ab und ziehen die Besucher magisch an.
Das Sichbetongebäude wirkt wie eine riesige Skulptur, bei der sich Licht und Schatten dekorativ auf dem ausladenden Vorhof abwechseln. Helle Muster werden durch das Sonnenlicht geschaffen, das in und durch die Struktur scheint, Schattenlinien wandern über den Bereich, Innen und Außen werden subtil verbunden. Die überhängenden Strukturen krümmen sich wie Dachvorsprünge und führen den Besucher in das Foyer, eine Halle, die so hoch wie das Gebäude ist, verschachtelt mit sich kreuzenden Treppen, Passagen und Brücken.

ITALIANO

Il primo museo di arte contemporanea in Italia, il Museo Nazionale delle Arti del XXI Secolo, o MAXXI, è una scultura architettonica espressiva. La natura dinamica di questa forma incarnata dell'idea di "mucchio" degli architetti di Zaha Hadid – di masse e spazi che si ammucchiano- è sottolineata dagli elementi di design con luce naturale e artificiale in uno schema della GIA Equation.
Situata sui terreni una volta appartenenti alle caserme militari al bordo settentrionale del centro città, tra l'ansa del Tevere, l'area residenziale e magazzini, la leggera struttura grigia del MAXXI è visibile da lontano. I contorni sovrapposti e curvi spiccano sul reticolato ottagonale della città ed attraggono magicamente i visitatori.
La costruzione di calcestruzzo a vista appare come un'enorme scultura con alternanze decorative di luce ed ombra nell'ampio cortile. Motivi luminosi vengono disegnati dalla luce del sole che splende sulla struttura e la attraversa, linee d'ombra vagano per tutta la zona, interiori ed esterni sono impercettibilmente connessi. Le strutture sporgenti si piegano in tetti in aggetto, guidando i visitatori nel foyer, una hall alta quanto la costruzione, intrecciata con scale di attraversamento, passaggi e ponti.

ESPAÑOL

El primer museo nacional de arte contemporáneo de Italia, el Museo Nazionale delle Arti del XXI Secolo, ó MAXXI, es una expresiva escultura arquitectónica.
La naturaleza dinámica de la figura personificada de la idea de la "deriva" de los Arquitectos Zaha Hadid - de las masas y espacios que están a la deriva – es acentuada por los elementos de diseño de luz natural y artificial en un proyecto de GIA Equation.
Ubicado en lo que fueran los terrenos de los barracones militares en las afueras del norte de la ciudad vieja, entre medio de la curva del Tiber, el área residencial y los edificios de almacenaje, la estructura gris claro del MAXXI se ve desde la distancia. Los contornos curvos superpuestos se salen del modelo urbano ortogonal atrayendo a visitantes mágicamente.
El edificio de hormigón expuesto aparece como una gran escultura alternando decorativamente la luz y la sombra en la extensa entrada. El brillo de la luz solar dibuja modelos brillantes en la estructura y a través de la misma. Las líneas de sombras vagan a través del área; el interior y el exterior se conectan sutilmente. Las estructuras sobresalientes se doblan en dos como techos salientes, guiando al visitante para entrar al foyer; un hall tan alto como el edificio entrelazado con escaleras que se cruzan, pasajes y puentes.

The soft light from Zumtobel Tecton continuous-row luminaires not only radiates downwards through the Barrisol Lumière translucent sheet, but also diffuses upwards through the grating of the steps and pathways. Light bands hidden in the handrails follow the stairs as a source of indirect illumination

Pic: Iwan Baan

the retention of a cleanness to the design and building presentation. An example of this was the provision of a supplementary technical lighting element within the roof lights themselves, adding a third lighting function within these components. This took the form of a track on the underside of the trusses to enable focused, targeted light onto three dimensional pieces or indeed onto specific wall displays.

Other supplementary technical lighting elements included linear direct wall washing and the introduction of an opal diffusing panel arrangement to areas where daylight supplementation was required.

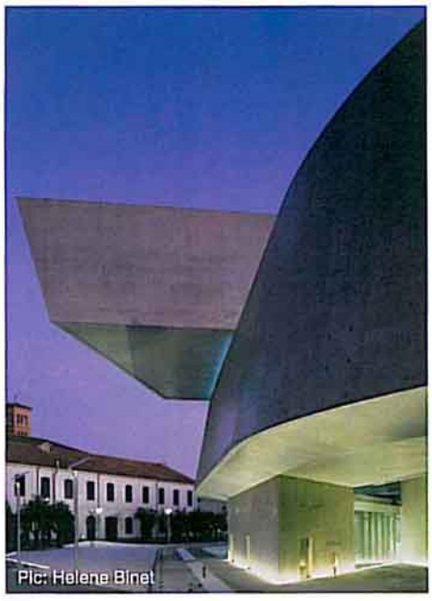
The physical expression of both of these elements once again helped to 'join-up' the lighting/architectural/functional expression of the MAXXI building. Linear washlight treatments flow and move though the building, accentuating building lines in much the same manner as the roof lighting and these lines are also present in the large opal panel arrangements, making the building geometry clear and evident.

It should also be noted that the performance required from this 'technical' lighting component embraced all of the design requirements normally associated with an international gallery of this standing. The lighting installation needed to incorporate all of the key optical performance characteristics (hang uniformity, colour rendering, modelling etc.) together with the very important conservation requirements that included illuminance level management, ultra-violet control, infra-red filtration, lux hour monitoring and so on.

SUSTAINABILITY

The duration of this design process is also perhaps worth noting, particularly within the context of another key design philosophy; the provision of an energy efficient, low running-cost building. GIA Equation started work on this project at the beginning of 2001 when the term 'sustainability' was firmly associated with the Green Movement and placed in the realm of the 'tree-hugging' fraternity.

However, for us, sustainability has always been a central part of our design approach with the recognition that a lighting installation is a living, breathing part of a building



General illumination is provided by light bands with dimmable fluorescent lamps fitted behind light-scattering translucent acrylic glass. Spots offer additional point illumination. Focused spots highlight the sculptures and make them come to life by the interplay of light and shade

that places a demand on building operators long after we have left the project. The requirement therefore, to provide that much overused phrase 'a sustainable design' is deep within our DNA - we have been doing it since our inception back in the mid '80s. Within MAXXI, this philosophy is clearly in evidence, tying in with the broader design philosophy of the team and indeed other elements of the building design. The artificial design solutions that were first conceived nearly a decade ago were inherently efficient and pointed in the direction of anticipated product development. The result of this is a building that employs current technology, despite the duration of its delivery period, and therefore has what would be termed in today's language a sustainable, energy and maintenance efficient lighting solution.

DURATION

A footnote to everything written above relating to this project had some significance for us as lighting designers, but substantially more for the core members of the MAXXI design team and in particular Zaha Hadid Architects.

We have now delivered a number of projects in Italy, some of them in the public sector. The process is long, drawn out and bureaucratic to say the least. The movement and sign-off through the preliminare, definitivo and esecutivo design stages can take a long time with periods of inactivity between stages being considerable. It is interesting then that MAXXI, in its delivered form, so clearly resembles its earliest design concepts. This is something that I think can only be attributed to the strength, robustness and quality of the original design vision and, if you ever get the opportunity to go and visit this wonderful piece of architecture, is worth keeping in the back of your mind.

www.giaequation.co.uk

Project Details

MAXXI Museum, Rome, Italy

Client: Ministry of Cultural Heritage and Activities, Rome
Architect: Zaha Hadid Architects
Lighting Design: GIA Equation
Electrical Design: Max Fordham, The OK Design Group
Roland Halbe pics courtesy of Zumtobel

Lighting Specified

Foyer: Zumtobel Tecton continuous-row luminaires, ERCO Stella Projector Spotlights (with framing devices), Barrisol Lumière system
Exhibition Areas: Zumtobel Tecton continuous-row luminaires, Zumtobel Vivo L spotlights, Zumtobel Panos downlights, Luxmate Litenet light management system
Exterior: BEGA in-ground luminaires, BEGA recessed wall luminaires, BEGA bollards, BEGA pole-top luminaires

Barrisol® Lumière®
MaXXI Museum, Roma - Italy
architect : Zaha Hadid

Zaha Hadid Architects © 2009 - photographer : Roland Halbe

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