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Structured cabling: the Legrand 25-year application warranty

Almost all manufacturers now offer their warranty on the structured cabling systems. Because these warranties can have significant difference, and with promises ranging from 15 years to 25 years or even “lifetime”, it can be complicated for the end user to understand the concept.

What the warranty really means

The duration of the warranty is actually the least important part of the contract. Anyone can assume that a warranty above 15 years simply means that the manufacturer trusts his product. In fact, products are only a part of the warranty, but not the main aspect. It's actually about creating a trust relationship between the end user and the manufacturer. It's about the manufacturer making the following statement: “If you choose my products, I will ensure that everything functions properly so that you don't have to worry about any risks.” Now let's look at what needs to be covered.



IF YOU CHOOSE MY PRODUCTS, I WILL ENSURE THAT EVERYTHING FUNCTIONS PROPERLY SO THAT YOU DON'T HAVE TO WORRY ABOUT ANY RISKS. ▀▀

Actors

Since the objective is for the end user to obtain support from the manufacturer, he must be the beneficiary of the contract. The installation company can and must be stated in the contract but can be neither the benefactor nor the beneficiary. In either of those two cases, the end user would lose the relationship with the manufacturer.



Questions to ask about the manufacturer

How long has the manufacturer been in existence? Will that company still exist in 25 years to honor the warranty? Does the company have local legal representation in the country to support this warranty? And do they have the sufficient financial strength in case of warranty claim?

The end user should therefore first verify the capacity of the manufacturer to honor that warranty based on the size of company, historical background, and reputation.

What about the labor?

The best of products cannot guarantee any performance unless the installation is done in the proper way. For this reason, manufacturers have created a training and certification program for installers.

It generally includes hands-on product practices, but most important, it covers the standards and rules of installation. This ensures the manufacturer that his products will be installed according to best practices and therefore offer the optimal performance. And by having the tight relationship with the installer, the manufacturer is aware of the progress of the installation and may make site visits and on-site support.



THE COMMON PERFORMANCE WARRANTY THEREFORE LEAVES SIGNIFICANT RESPONSIBILITY ON THE END USER

Generally, each person having passed the training receives a certificate of success, and the company obtains a “Certified Installer” certificate. It is not uncommon for end users to verify these documents during the tender process. In this sense, by requesting a warranty, the end user is actually ensuring the right technical support as well as project control from the manufacturer.

Local support

Local support is a critical aspect of a warranty program. In case of technical problem, how long will it take the manufacturer to visit the site? What legal rights does the end user have when he received a warranty from an overseas supplier without a local office. In most countries, the company legally responsible is the importer, which might be the distributor and not the manufacturer. The end user should always consider how he will be able to communicate with the manufacturer, how he'll obtain the right support, and what means he may have to protect his interests in case of disagreement.

The application warranty

The most common warranty is the Performance Warranty. In this version, the manufacturer ensures that the installer is properly trained, and request him to sign a contract where he confirms that he has followed the proper methods.

A very simplistic explanation of this warranty is the following:

- The products are all compliant
- The installation is compliant
- The performance of the links is compliant (Class EA for example)

At first glance this may seem sufficient, but although this does confirm the confidence of the manufacturer in his products and in the installation from the installer, it may not actually correspond to the expectations of the customer. Here are some details not covered:

- In fiber, the links are only required to meet standard values, which may not actually allow the applications expected. For example, multimode OM4 links of 3 connectors with Insertion Loss 2.25dB are perfectly compliant to standards, but none of the recent applications will function due to a budget limited to around 1.8dB.
- In copper, a Channel is defined for 100m maximum. But this is only at 20°C. As temperature increases, due to environment or to PoE, performance degrades. If the link no longer functions because the temperature increased, the manufacturer does not consider this a defect and will remind the customer that he's responsible for respecting standards during operations. The customer would therefore be expected to either maintain the temperature at 20°C, or to have designed with shorter links to compensate for temperature.

The common Performance Warranty therefore leaves significant responsibility on the end user. For this reason, Legrand has innovated with a 25-year Application Warranty. It's intended to ensure the customer that not only everything is compliant, but also that all applications will function on the system.

WARRANTY
25
YEARS
PERFORMANCE



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Here are the key features:

► FIBER

Legrand supervises the design and architecture to ensure that all the fiber links have adequate lengths to support the applications. Then the standard test limit used for testing are replaced with far stricter limits not only reflecting the superior performance of Legrand products, but also assuring all the requested applications.

A list of applications is made available to the customer.

► COPPER

The temperature has never been such an issue until the appearance of PoE. Sending power in a cable always creates heat, which in the case of PoE, could increase the temperature of more than 30°C. The installation standards provide all necessary information to ensure that the applications still function under PoE. But in some cases, the customer may need to assess the existing power through the cables for every new connection of a device. This can be extremely complex to implement in the operations processes. Below is a table of the Remote Powering Categories as defined in the International installation standard ISO/IEC 14763-2:

Category	I_c - average	i_c	Controls required during...	
			attachment of remote powering equipment	planning of subsequent cabling installation
RP1	≤ 212 mA	≤ 500 mA	Yes	Yes
RP2	> 212 mA < 500 mA	≤ 500 mA	Yes	Yes
RP3	-	≤ 500 mA	No	Yes

Compliance to the ISO/IEC 11801 series requires an installation compliant to ISO/IEC 14763-3, which mandates compliance to Category RP3.

This allows the maximum PoE (Type 4 90w) on 100% of the links without overheating and without disrupting the Ethernet signal, but most of all, without the need to control during connection of devices.

In order to achieve the RP3 category, multiple heat calculations must be made considering the environment temperature, types of cables, type of cable management, the number of cables per bundles, shape of the bundles and separation of the bundles. This is then used to calculate the maximum achievable distance of the channels at the estimated cable temperature.



THE CUSTOMER MAY NEED
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This can be quite a challenging work, so Legrand has made a guide for simplified installation conditions by making some assumptions. Following this guide provides guaranteed distances and compliance to RP3 Category.

As part of the Application Warranty, Legrand provides the customer with the initial installation conditions so that the installer can provide a compliant installation. This information is recorded as part of the warranty, and all measurements are verified to comply to stated lengths. This means that Legrand is guaranteeing all applications, including PoE on the structured cabling, as part of the 25-year Application Warranty.

Legrand is therefore able to remove this responsibility from the customer and include it in the warranty.

The customer can then be confident that all stated applications function on the copper cabling, including PoE, if the environment remains within the assumptions stated.



LEGRAND IS GUARANTEEING ALL APPLICATIONS, INCLUDING PoE ON THE STRUCTURED CABLING, AS PART OF THE 25-YEAR APPLICATION WARRANTY

Conclusion

Warranties are not all alike. The customer should check the details such as the local presence and reliability of the manufacturer, and most important, the warranty coverage.

The Legrand 25-year Application Warranty goes far beyond the traditional Performance Warranties and offers what's really important to the customer: peace of mind.



THE LEGRAND 25-YEAR APPLICATION WARRANTY GOES FAR BEYOND THE TRADITIONAL PERFORMANCE WARRANTIES AND OFFERS WHAT'S REALLY IMPORTANT TO THE CUSTOMER: PEACE OF MIND



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