



PLASTIC OR METAL CHASSIS?

CHOOSE QUALITY, SAFETY AND PEACE OF MIND

OUR COMMITMENT

NEC Display Solutions has elected to use an all-metal framework in its large surface display products, avoiding the use of plastic for all structural parts of the chassis. Not only is this a positive choice for sustainability and recyclability, it is also an imperative choice for safety and security. Maintaining our much-valued reputation for superior quality products, NEC selects the highest quality industrial-grade components and adheres to manufacturing processes managed under stringent Japanese quality control. By choosing metal, we are making an active choice for quality, guaranteeing peace of mind for our customers.

NEC chooses to use a metal chassis where our competitors often opt for plastic or polycarbonate. This document outlines the wide-reaching benefits of using metal.



Safety and Security

FIRE RETARDANCY

A metal chassis enables NEC to achieve excellent results in fire safety and fire load testing; this is mandatory in public spaces. No product comprising mainly plastic parts can claim this.

In 2019, Brussels Airport launched a tender that described LCD and LED based video wall products as “cladding”. This means that video wall products require the same fire classification as construction materials. Not to be confused with fire-resistance, fire-retardancy describes a product’s contribution to delaying or reducing fire, giving people more time to escape. The fire load test measures a product’s reaction to fire including its contribution to the spread and intensity of flame and the release of smoke and burning droplets.

FIRE LOAD TESTING

Fire load testing was carried out on the NEC LED FE/FA series by BES AG at the request of FraPort Airport who concluded: *“Taking all current documents into account, from an expert’s point of view, due to location-independent parameters, there are no considerations regarding the installation of the FE/FA series semiconductor modules in rooms/areas of e.g. railway stations, airports, shopping centres, suburban and metro stations, foyers of large office and commercial buildings and exhibition halls in which fire loads are permitted according to building regulations.”*

Fire Load Testing (Continued)

This means that by using NEC LED products, it is unlikely that additional protection compensation investments are required, thus saving costs, saving effort and guaranteeing peace of mind.

Brussels Airport is confident in using NEC: *“Brussels Airport Company has chosen NEC Displays and Solutions because of the high level of Fire Safety (S[quadrat]® technology) and extremely good fire test results the products reached (The P-series reached up to EN 13501-1 Euroclass B). Installing NEC products allows you not to take other expensive measures like object-sprinklers and specific smoke evacuation equipment.”*

Precision and Reliability

HEAT MANAGEMENT

With a high thermal conductivity, metal aids efficient heat dissipation, quickly expelling the heat from inside the device. This natural heat transfer works to complement NEC's unique heat management system which uses sensors to constantly monitor the temperature within the device. Reducing and managing heat build-up is vital to extending the lifetime of electronic components and ensuring consistent performance.

PRECISION ALIGNMENT

Aluminium is rigid and stable over time especially in changing heat environments, unlike polycarbonate which can expand when exposed to heat and cause buckling and warping. Precision engineered, the aluminium chassis provides a dependable framework upon which to build the LED display ensuring perfectly executed alignment of LED modules.

ROBUST AGAINST DAMAGE

Metal, compared to more pliant plastic, creates a durable structure, robust to withstand the rigors of handling during de/re-installation and resilient against potential damage whilst operating in areas of high footfall. Whilst demonstrating great strength, aluminium is also light in weight, making it easy to handle during installation and does not require significant supporting infrastructure.

Display reliability is a major success factor in achieving a low operational cost and a lower overall TCO. For many applications, such as Control Rooms or Airports, maintaining operational reliability is business-critical.

Read our reliability whitepaper about why quality matters: [Why is reliable display operation so fundamental to business success?](#)

Sustainability and Recyclability

NEC is committed to developing innovative solutions that are sustainably produced, provide long lasting reliability, save energy and are highly recyclable. NEC's Large Format Displays for instance claim an impressive average recyclable rate of 97.4%. By choosing to avoid the use of plastic within the major components of its devices, NEC is contributing to reducing waste and protecting the planet. What's more, by behaving responsibly and using resources more efficiently, businesses are also saving costs.

Read our recyclability whitepaper: [How do NEC's environmentally friendly solutions not only benefit the planet, but also your business?](#)

Read our whitepaper: [How all LEDs are not the same](#)

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