



**Global Thermoset Composite Solutions**

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May 15, 2017

## **NIST G11CR PROCESS SPECIFICATION**

In August of 2015, Norplex-Micarta attempted to locate and review the NIST Process Specification to ensure our compliance for G10CR. During this investigation, we contacted NIST Archives, the NIST Cryogenic Labs, and past members of the NIST Cryogenic Materials team.

No one is able to locate a current specification, including one for G11CR. Moreover, no one is able to locate a specification other than an initial draft.

Norplex-Micarta, as a supplier to this industry for over 40 years under the Norplex tradename, and more than 100 years under the Micarta name, has internal records detailing when the NIST G11CR Process Specification work was begun in 1980. Unfortunately, this preliminary draft contains materials that are now listed as known carcinogens.

We do not know why the standards process was not formally completed. Unfortunately, since no such specification exists, we cannot certify to G11CR.

However, our NP511CR product is fundamentally the same as the G11CR. While it has not been produced for decades like NP500CR, the chemistries, formulations, and processes are not new to us, and the material meets the expected mechanical requirements.

We understand the inability to certify to the NIST G11CR process specification may be problematic. Therefore, we have prepared a FAQ section to address some concerns that we have heard expressed by the industry:

*Is NP511CR different from other G11 materials, such as MC511AF?*

Yes.

NP511CR is produced on a specific style of fiberglass and has modified resin chemistry. These modifications are contemplated in the preliminary specification by NIST that we have. These changes cause the material to have higher production costs.

*Is NP511CR better than other G11 materials, such as MC511AF?*

Both materials will meet the standard performance requirements for NEMA G-11, which were the performance requirements recommended for the NIST G11CR draft. We do know that the primary intended application for most G-11 materials was as an insulation or a non-conducting mechanical part of electrical equipment. Furthermore, the specific chemistries in NP511CR have been studied extensively in various cryogenic lab environments.

*What if my customer demands a material that is certified to the NIST G11CR Process Specification?*

We have asked NIST for a formal letter stating that this process specification does not exist.

Unfortunately, we are unable to secure this document. We would be happy to discuss your specific case, and what we can do to support your customer's understanding of this situation.



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*Will Norplex-Micarta make a product that complies with the draft NIST G11CR Process Specification dated 1980?*

No.

The draft NIST G11CR specification contains materials that are now listed as known carcinogens. In order to protect our employees and customers, we will not introduce those raw materials to manufacturing process.

*Is Norplex-Micarta willing to consider alternate approaches or formulations for materials?*

As a leading supplier of thermoset composite laminate materials, we welcome the opportunity to discuss how we can assist your development needs.

A handwritten signature in black ink that reads "Dan Krammen". The signature is fluid and cursive, with a small mark below the name.

Dan Krammen  
Manufacturing Engineering & Quality  
Assurance Manager