

### NP600 Series

The NP600 series includes a range of products that are optimized for different tasks. In some cases, special additives enhance key performance properties:

- NP629 is a machining grade intended for mechanical application with high resistance to moisture. The material also has a low potential for splitting when edge drilled and tapped;
- NP612 is suitable for room temperature punching and shearing in thicknesses up to 0.125”;
- NP843 is made from a semi-conductive phenolic resin with an insulating core for X-ray applications requiring maximum X-ray clarity and static dissipation;
- SkatePlate® 3000 is composed of a phenolic resin and mechanical grade kraft paper, providing excellent strength and durability in both indoor and outdoor skateboard park applications.

The NP600 series of thermoset composites is made with various paper substrates and several different phenolic resins. These combinations yield cost-effective products with excellent thermal and electrical insulation properties, machining qualities, and outstanding performance in a wide range of applications.

Phenolic resins are fundamentally strong and resistant to high temperatures and chemicals. They thoroughly coat the surfaces and/or impregnate the reinforcing paper, which can vary from economy and mechanical grades to electrical grades, in natural or pigmented varieties, depending on the application and desired appearance. Even at high temperatures, phenolic resins retain their chemical structure and rigidity. Hence, the NP600 series provides excellent performance, even in high-temperature refractory and foundry environments, and when exposed to acids, cleaning solutions, and lubricants in the food processing industry. The NP600 series is also ideal for low-voltage, dry electrical applications.

These laminated thermoset composites are easier to machine than metal, with less tool wear. They do not spark when struck — a key property that enables them to be used in explosion-proof environments. In addition, parts made of phenolic-paper provide strength and insulation properties that meet or exceed those of low-end thermoplastic materials.

Phenolic-paper composites are ideal for fabricating a variety of rigid parts, including drill entry and backing, panels, washers, terminal boards, breaker arms, high-voltage switch gear components, and intricate punched parts. Specialty phenolic-paper materials can even be used to construct X-ray-clear tables, and outdoor/indoor skateboard parks. Resin impregnated “cover” sheets are applied to some grades to improve the moisture resistance, change the laminate color, and provide special properties to the composite.



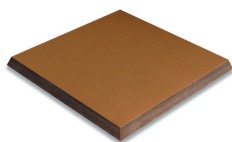
### NP600, NP602, NP605

Engineered with a low-phenolic resin content, these economy grade laminates are typically hot-punched or machined for various low-voltage electrical applications. They are best suited for applications with dry conditions.



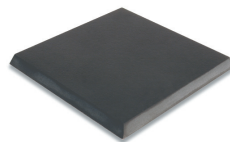
### NP664

Composed of unbleached kraft paper, this low-cost phenolic-paper composite is a room-temperature punching grade. NP664 features high flexural strength, and provides excellent mechanical and electrical properties.



### NP611

This phenolic-paper material offers excellent mechanical, electrical insulation, and moisture-resistant properties. NP611 is a warm- to hot-punching grade used for switch parts, terminal boards, insulating washers, and other intricate punched parts. NP660 is an economy version of the NP611, providing cost-effective alternatives for applications with less stringent mechanical, electrical, or moisture-resistance requirements.



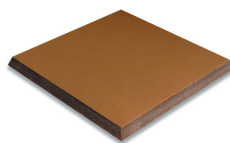
### NP843

This product is made from a static-dissipative phenolic resin and kraft paper substrates. Its insulating core makes it ideal for X-ray applications that require maximum X-ray clarity, such as X-ray tables in operating rooms.



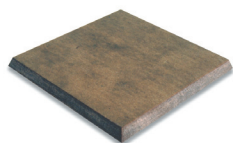
### NP629

Combining good electrical properties and excellent resistance to moisture and splitting, this phenolic-paper machining grade composite is ideal for high-voltage switch gear applications in the electrical devices market.



### NP612

A paper based phenolic grade which is suitable for room temperature punching and sheering. Suitable for intricate punched parts, the product is designed for applications in which electrical and moisture requirements are of secondary concern.



### SkatePlate® 3000

Composed of a phenolic resin and mechanical grade kraft paper, this product provides excellent strength and wears well at outdoor and indoor skateboard parks. Unlike plywood and other skate park surface materials, SkatePlate 3000 does not splinter; has high strength; and has a lower tendency to cause abrasions.

## Industry Standards

Norplex-Micarta Grade	ANSI/ASTM NEMA LI-1-1998	Military MIL-I-24768/...[Type]	IEC 60893 Part - 3 - "Sheet"- "Type"
NP600, NP602, NP605	---	---	---
NP611	XP	/19 - PBM - P	- 4 - PF CP 201
NP612	XPC	/20 - PBM - PC	- 4 - PF CP 207
NP629	XX	/11 - PBG	- 4 - PF CP 203
NP664	XPC	/20 - PBM - PC	- 4 - PF CP 207
NP843	---	---	---
SkatePlate 3000	---	---	---

