

DNP unveils new plastic cover sheet for handheld devices

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Credit: Tech-On

(Phys.org)—Japanese AV equipment maker Dai Nippon Printing (DNP) has unveiled a new type of plastic cover sheet that may soon replace glass screen covers on smartphones and tablet computers. The new material is reportedly as hard as gorilla glass and is extremely resistant to scratching. And because it's made of plastic, can also be bent.

The sheet is actually a sandwich of three components: a fingerprint proof layer on the front and a plastic substrate coated with a hardening agent on the back. The result is a sheet of plastic just 0.5mm thick that can be manufactured in virtually any size.

DNP says testing of the new plastic cover sheet has shown it to have a pencil hardness of 9H, which is comparable to the gorilla glass now commonly used as a cover sheet for the screens on most handheld [electronic devices](#). They also brushed samples with steel wool with a weight of 500g/cm² applied, 200 times and found no scratching had occurred. The company says the new covers would be a superior alternative to glass cover sheets because they would be far less susceptible to scratching and breaking. The team also tested the bendability of the cover sheet using a mandrel test on 1.0mm and 0.5mm thick sheets and found them to be 140mm and 90mm diameters, respectively. Thus, the new covers would be suitable for use in bendable smartphones and/or [tablet computers](#).

The company says the cover sheets are very clear as well, with haze and [transmittance](#) tests showing 0.4 percent and 91.2 percent respectively. Also fingerprint testing showed the [contact angle](#) to be 103 degrees for water and 56 degrees for oil.

As part of its announcement, DNP said they plan to start shipping sample sheets to various hardware makers this month, and to be ready for volume shipment by the middle of next year. They're also projecting sales of ¥10 billion (\$121 million) by 2014, which indicates how secure the company is with its new technology. If the company's claims turn out to be true, hardware makers will no doubt want to use the new cover sheets on their products which means consumers could be buying devices with the new screen covers by this time next year.

More information: via [Tech-ON](#)

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