

*From Tech Update March 2018*

## Extend your possibilities with phenolic plastic products by coating



**PVD Coating  
of Thermosets**

Requirements of the application can sometimes limit the freedom or creativity of product designers as plastic materials are skipped too soon. Let us think outside the box to approach new production challenges.



In one of our previous newsletter we have informed you about the unique position Helvoet is having into the market of precision phenolic parts and coating of thermosets by adding coat layers through PVD process (Physical Vapor Deposition).

When we started to work on the coated radar roll we faced the challenge of a narrow tolerated molded phenolic part with extreme requirements on run out which are combined with the need for reflection by adding an Aluminum layer. Today it is running in high volume production with sophisticated manufacturing processes.

Let us use this example to start thinking about new opportunities of coated thermoset resins like phenolics. Why use injected molded phenolic materials?

In several applications exist requirements on the component which are hard or impossible to reach with thermoplastic materials.

Think about the **possibility to design in your very narrow tolerated part with unequal wall thicknesses** using a thick and a thin wall next to each other without difficulties of recessed areas, strength or bending, smooth molding skins or cycle times.

Now, think about this advantage in combination with adding a top **coat surface** for all kind of purposes such as **insulation, reflection, durability, friction, abrasion, conductivity, etc.**

As you can see some there are plenty of very interesting fields and some of combinations have not seen reality yet.



Why not have a narrow tolerated molded phenolic part combined

- with coating a Gold layer in order to have optimum reflection under all conditions
- with coating based on Titanium in order to have optimum protection for corrosion
- with coating based on Zirconium in order to have optimum protection for heat
- with coating based on Chromium in order to have a perfect decorative layer

Contact our [team](#) and discuss with us your ideas / challenges for products with a functional coating, we are looking forward to support you in challenging the future.