

Why WPC core plugs?  
Environment, health  
and safety! And economy



## Argument for WPC core plugs

- Miko WPC core plug 0.8kg vs. standard core plug 1.6kg
- Half the weight!
- New design together with the reinforcing properties of woodfibre gives a strong construction.
- Less material use.
- Lower energy consumption in production.
- Lower transport weight have less impact on the environment and lower the CO<sub>2</sub> emissions.
- Easier handling with lighter core plugs, lifting, throwing etc. For a manufacturing plant using 800.000core plugs p/a it means 640 tonnes less lifting for the employees.
- Economy



# CO<sub>2</sub> savings at road transport

- Case study example: Full truck load – total 3300km of road transport
  - Weight with standards core plugs 31 tonnes
  - Weight new Miko WPC core plug 15 tonnes
  - CO<sub>2</sub> emissions from truck
    - Standard core plug 3.64 tonnes
    - New Miko WPC core plug 3.1 tonnes
- ✓ **3300km transport of 800.000pcs new Miko WPC core plugs gives 23 tonnes (15%) of direct reduced CO<sub>2</sub> emissions compared with standards core plugs.**



## Effective production- reduced impact on the environment

- Miko WPC core plugs enables effective production and lower energy consumption
  - Why? 10% of the energy consumption is fixed. Remaining 90% is directly related to production.
  - Core plugs with only half the material mass means improved production when it comes to melting, injection and cooling processes.
  - Result is 45% lower energy consumption per annum.
- ✓ **Calculated on 800.000core plugs annually it means 212 tonnes lower CO<sub>2</sub> emissions from production with Miko WPC core plug!**



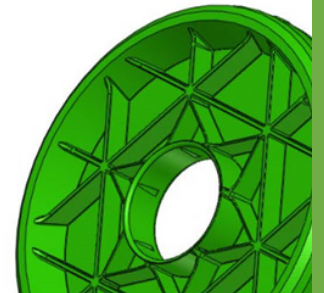
WPC is a range of paperroll securing products, made from 100% recycled PO Polyethylen/Polypropylen and wood fibre material.

- ✓ No new fossil resources are used.
- ✓ No waste or emissions are created during production.
- ✓ Production implies low energy consumption.
- ✓ Wood fibre benefits: -replace and reduce the polymer used.  
-increase the tensile strength.  
-increased tensile strength means less total material use.
- ✓ Closed loop system where material is re-used for new products.
- ✓ The environmental benefits of WPC products help minimize the CO<sup>2</sup> footprint compared with producing in new virgin material.

Technical Specification:

Product: Miko WPC™  
Description: Wood Polymer Composite  
Appearance: Mixed colour

PROPERTIES	REFERENCE VALUE	UNIT
Material source	Wood fibre / recycled HDPE/PP	-
Colour of material source	Mixed	-
Wood fiber	10-50	%
HDPE	40-50	%
PP	10-30	%
Moisture content	<=0.3	%
PET	0,1	%
Others	<=500	ppm
Temperature range	-30 C - 40	° C





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Statistisk sentralbyrå

<https://www.ssb.no/318322/drivstofforbruk-og-utslipp-per-kjorte-kilometer-for-et-utvalg-av-trafikksituasjoner-og-kjoretovgrupper.2016.g-km>

Vestlandsforskning:

'Ellers så har vi empiriske tall for dette for Norge, og her er den bivariate effekten 0,47liter per 10 km viss vekta øker med 10tonn, dvs. at per tonn øker drivstofforbruket med 0,047 per 10 km. Så viss dere er i stand til å redusere vekta med 3 tonn vil dere spare 0,141 liter per 10 km.'

[http://lipasto.vtt.fi/yksikkopaastot/tavaraliikenne/tieliikenne/tavara\\_tiee.htm](http://lipasto.vtt.fi/yksikkopaastot/tavaraliikenne/tieliikenne/tavara_tiee.htm)