





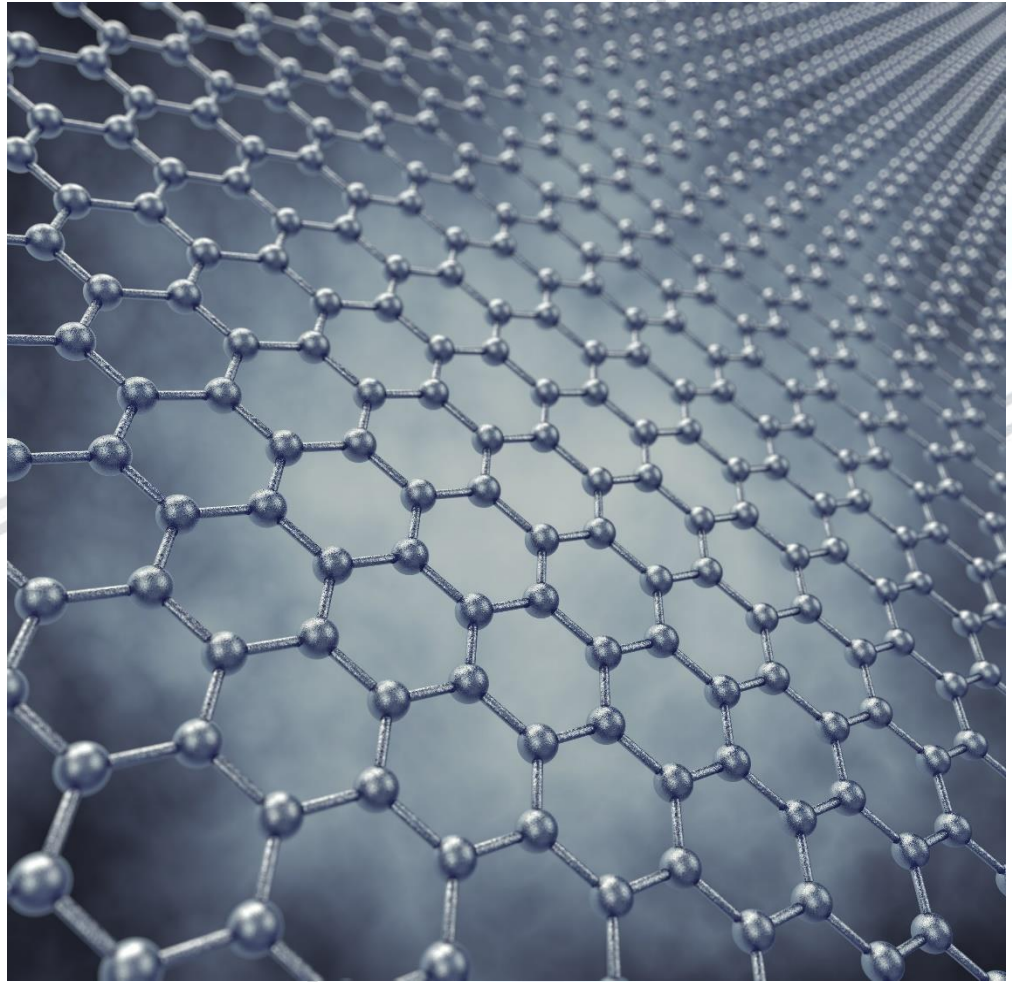




GRAFT POLYMER  
COMBINE INCOMPATIBLE

## Company Business Units

-  FUNCTIONAL MODIFIERS & POWDERS
-  POLYMER ALLOYS
-  CROSSLINKING SOLUTIONS
-  SYNTHESIS
-  POROUS
-  R&D



## Products Pipeline 2019

Using our own  
proprietary  
technology

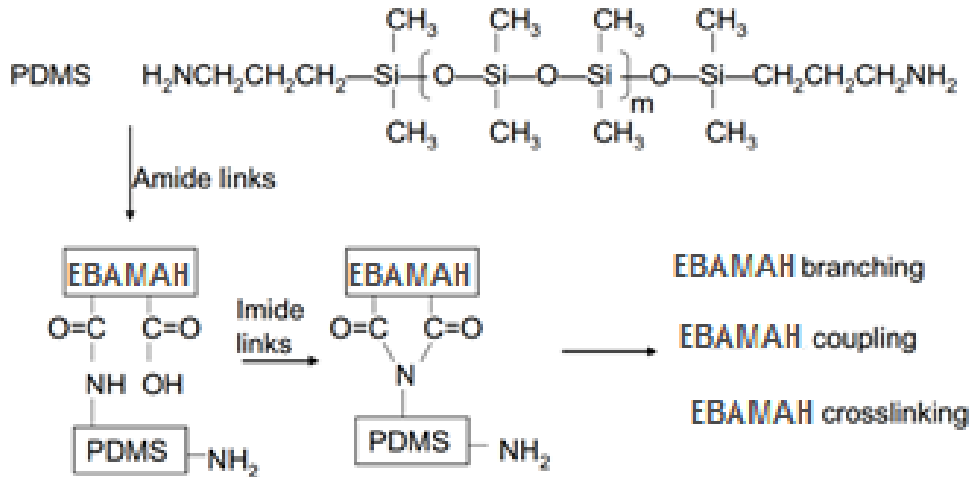
### POLYMER ALLOYS - GRAFTALLOY™ PDMS

Polyolefin, modified with polydimethylsiloxane (PDMS) can be *used* as *processing aids* as well as a *surface modifiers for polyolefins*.

PDMS is a naturally low surface energy material, which can be *used to decrease friction*, wetting of liquids and *create a slick surface*.

# GRAFTING REACTION

PDMS is chemically bonded to polyolefin will avoid bloom effects, where PDMS migrates to the surface. This phenomena can make the surface tacky and contaminated.



## 1. REACTION MECHANISM

PDMS is partially crosslinked to olefin chain, by forming imide groups with maleic anhydride. This prevents PDMS from migrating to the surface and losing its effect.

## 2. SURFACE PROPERTIES

### Static contact angle measurement



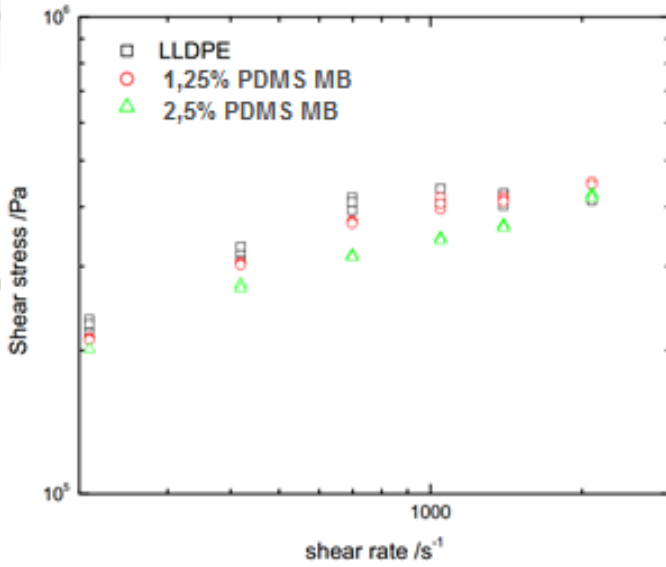
EBAMAH:  $79\pm 4^\circ$

+25% PDMS MB  $93\pm 2^\circ$

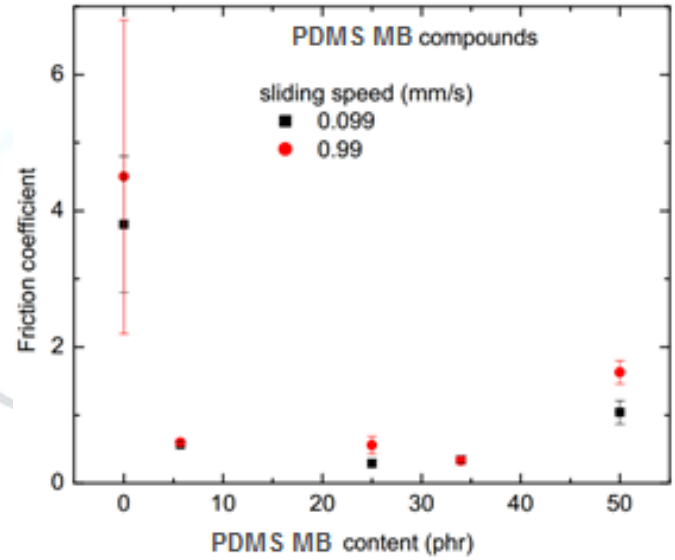
+50% PDMS MB:  $100\pm 4^\circ$

### 3. APPLICATIONS

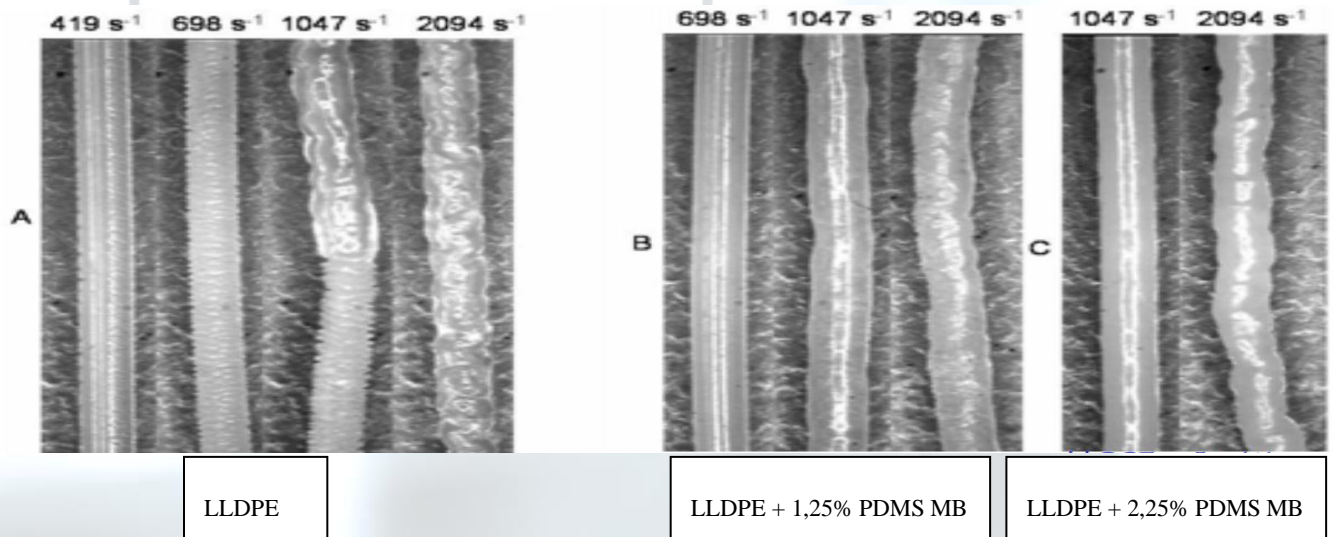
Reduce shear during processing



Reduce friction coefficient



Improve extrudate surface finish



### CONCLUDING REMARKS

The PDMS grafted polymer has modified surface properties:

- Can be *added* to almost *any* type of *polymer*
- *Increase* slickness of the material
- *Lower* friction coefficient
- *Lower* shear rate during processing and
- *Improved* surface finish of extrudate

## CONTACTS

### MANAGEMENT

CEO/CTO | Victor Bolduev +386 40 534 739

Executive Director / CMO | Pavel Kobzev +386 40 867 937

[Pavel@graftpolymer.com](mailto:Pavel@graftpolymer.com)

### GRAFT POLYMER D.O.O (OFFICE)

Emonska Cesta 8, Ljubljana Slovenia.

Company Num. 8056200000,

VAT. SI 30561345

Tel +386 1 777 6561

[office@graftpolymer.com](mailto:office@graftpolymer.com)

[www.graftpolymer.com](http://www.graftpolymer.com)

### GRAFT POLYMER D.O.O (PRODUCTION/WAREHOUSE)

Mejaceva ulica 2, 1353 Borovnica Slovenia

Company Num. 8056200000,

VAT. SI 30561345

[office@graftpolymer.com](mailto:office@graftpolymer.com)

[www.graftpolymer.com](http://www.graftpolymer.com)

### GRAFT POLYMER (UK) LTD

Central Working Victoria Eccleston Yards 25,

Eccleston Pl, London, UK, SW1W 9NF.

Company Num. 10776788, VAT. 281712016

[www.graftpolymer.com](http://www.graftpolymer.com)