

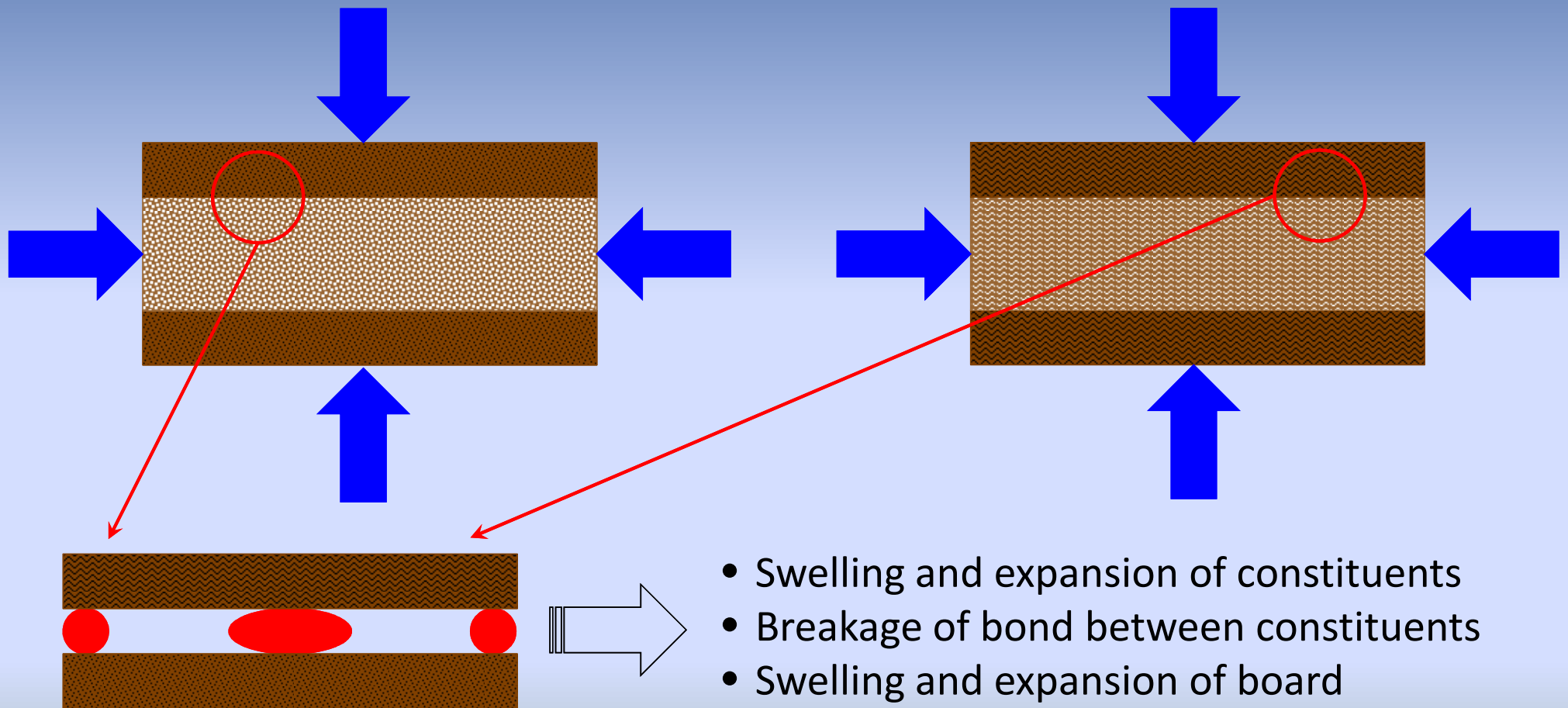
HYDROPHOBISATION OF PARTICLEBOARD SURFACE

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PB and OSB vs. water/moisture



cost **INTRODUCTION**

- ➔ Exposure
 - ⇒ Surface
 - ⇒ Edge
- ➔ When in use
 - ⇒ Furniture
 - ⇒ Construction



(Source: Egger, 2015)

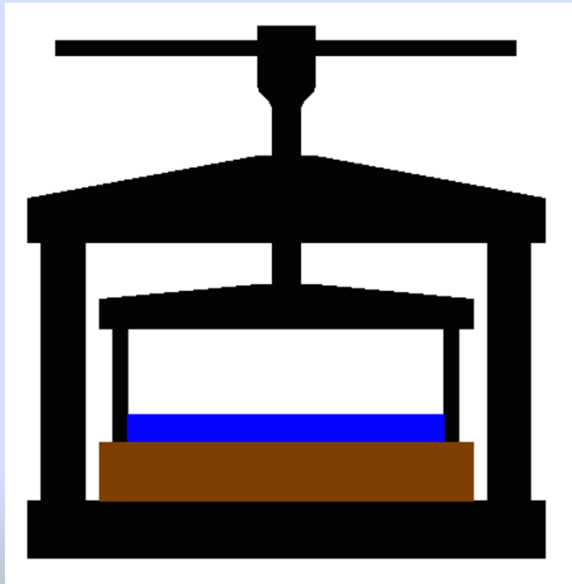
Object

To increase resistance of PB and OSB surface against water ⇒ make the surface more hydrophobic

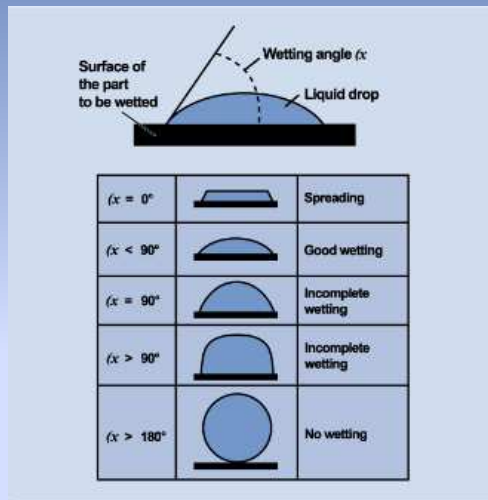
- ➔ Particleboard
 - ⇒ Furniture grade (P2 according to EN 312)
 - ⇒ Thickness: 18 mm
 - ⇒ Density: 0,660 g/cm³
 - ⇒ Moisture content: 7,2%
- ➔ OSB
 - ⇒ OSB3
 - ⇒ Thickness: 17,98 mm
 - ⇒ Density: 0,617 g/cm³
 - ⇒ Moisture content: 7,8%
- ➔ Paraffin wax emulsion
- ➔ Montana wax
 - ⇒ 2, 5 and 10% concentration

COST METHODS

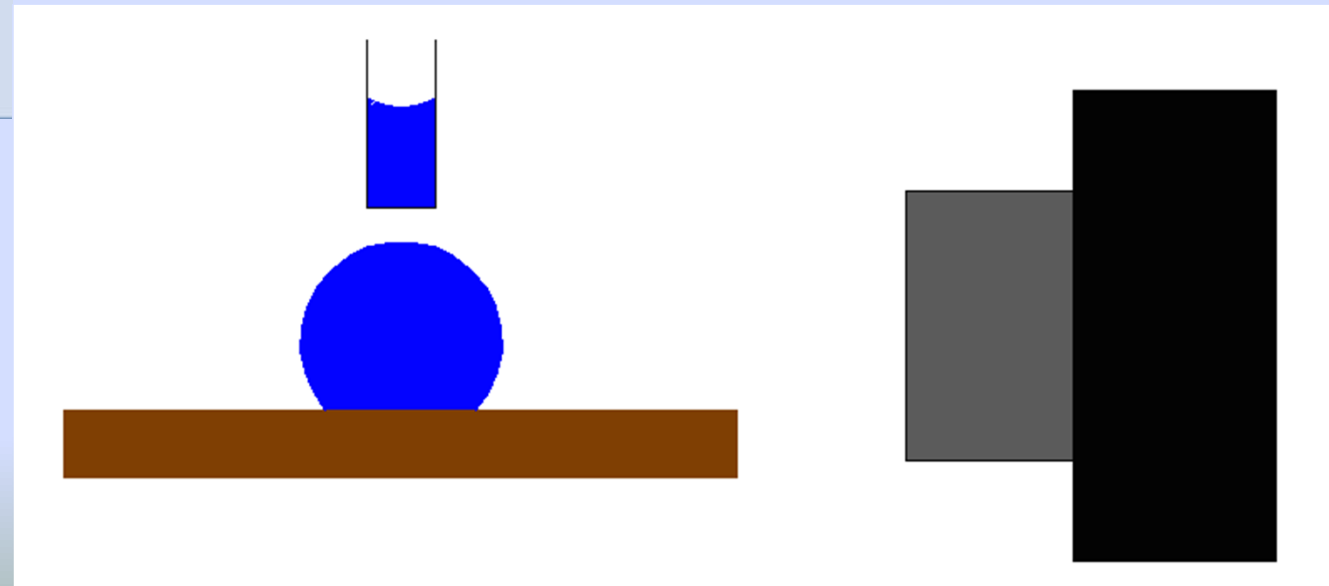
- ➔ Application
 - ⇒ Brush
 - ⇒ Application rate: 200 g/m²
- ➔ Drying for 30 minutes at 70° C
- ➔ Conditioning: 7 days at 20° C/65%
- ➔ Determination
 - ⇒ Surface absorption



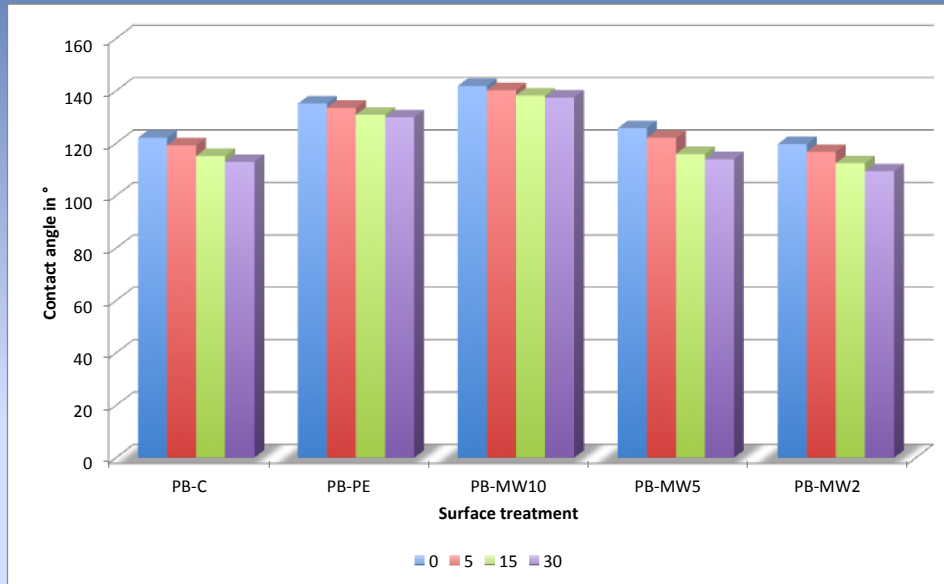
- ➔ Determination
 - ⇒ Contact angle



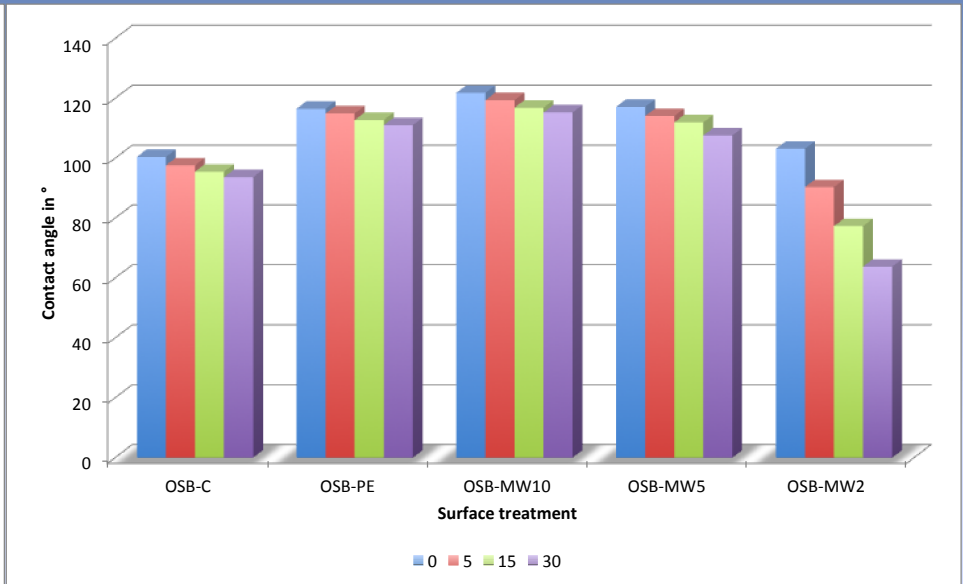
(Source: Sabre, 2015)



➔ Contact angle

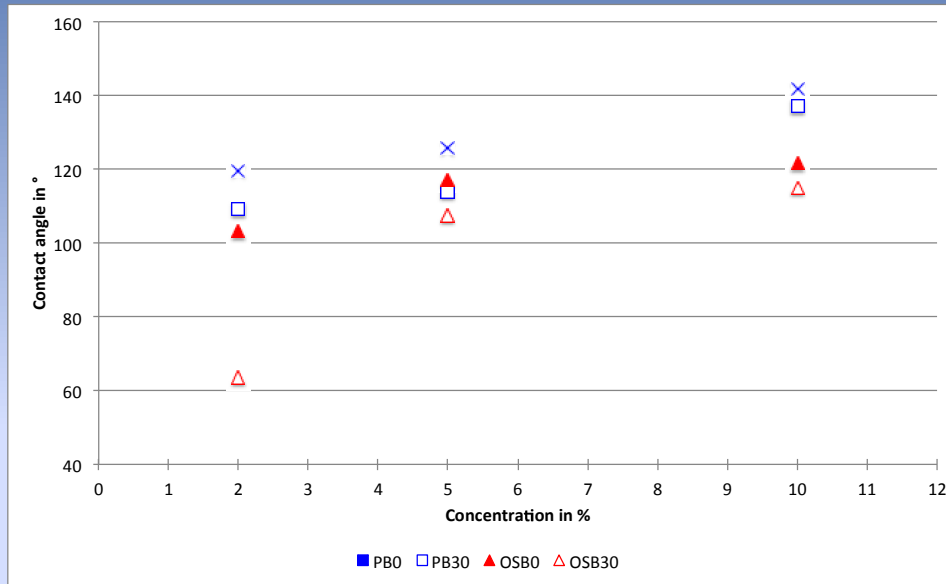


PB

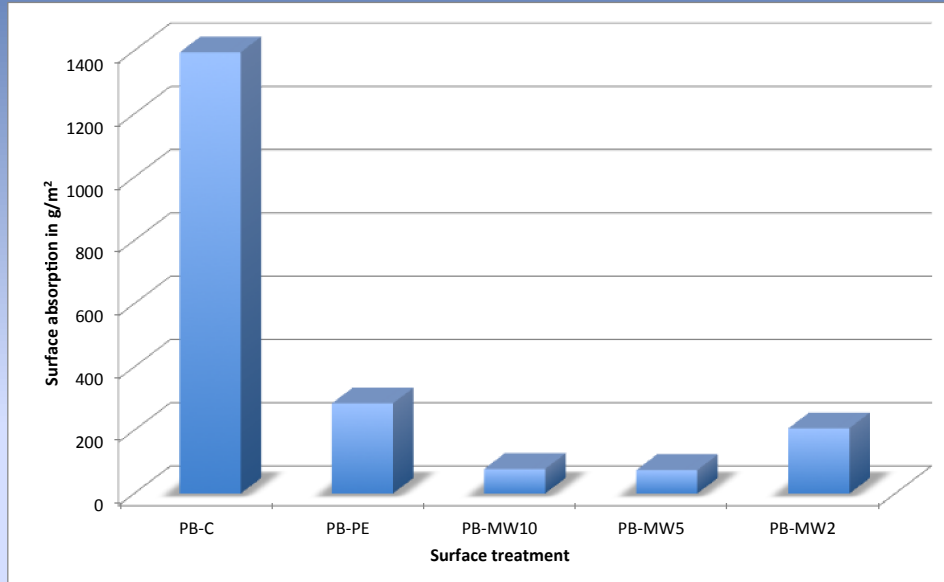


OSB

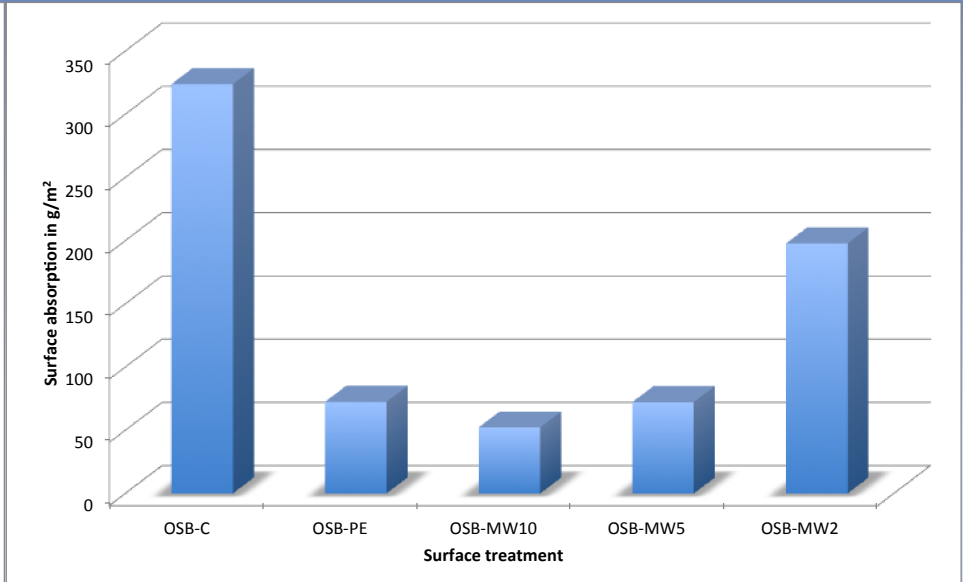
➔ Contact angle



➔ Surface absorption



PB



OSB

- ➔ Using PWE and MW increases the resistance of surface towards water
- ➔ Higher resistance at MW
- ➔ Increasing the concentration from 2% to 10% increases the resistance

- ➔ Q: would we increase the resistance with other application method



**THANK YOU FOR
YOUR ATTENTION!**

