

# CALCULATIONS

## Sheet Calculations

To calculate sheet weight

$$\text{Sheet weight [kg]} = \text{Length [m]} \times \text{Width [m]} \times \text{Thickness [mm]} \times \text{Density [g/cm}^3\text{]}$$

### Example ABS/PMMA

|     |                        |   |   |
|-----|------------------------|---|---|
| L = | 1.080 m                | } | $1.080 \times 0.800 \times 4 \times 1.07 = 3.70 \text{ kg}$ |
| W = | 0.800 m                |   |   |
| T = | 4 mm                   |   |   |
| D = | 1.07 g/cm <sup>3</sup> |   |   |

### Densities

| Product    | D [g/cm <sup>3</sup> ] | Product             | D [g/cm <sup>3</sup> ] |
|------------|------------------------|---------------------|------------------------|
| PC         | 1,20                   | TPE O8000           | 0,90                   |
| ABS 2000   | 1,06                   | PP/Talcum 20% O7020 | 1,04                   |
| ABS 3000   | 1,05                   | PP/Talcum 25% O7020 | 1,10                   |
| ABS/PMMA   | 1,07                   | TPE/Talcum O8030    | 1,04                   |
| HIPS S3000 | 1,04                   | PETG Griphen™       | 1,27                   |

To calculate cost per m<sup>2</sup>

$$\text{Cost per m}^2 = \text{kg-price [EUR/kg]} \times \text{thickness [mm]} \times \text{density [g/cm}^3\text{]}$$

### Example ABS A2100

|                                  |   |   |
|----------------------------------|---|---|
| Kg-price = 2,50 EUR/kg           | } | $\text{Cost per m}^2 = 2,50 \times 4 \times 1.06 = 10.60 \text{ EUR/m}^2$ |
| Thickness = 4 mm                 |   |   |
| Density = 1,06 g/cm <sup>3</sup> |   |   |

