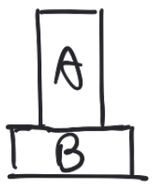
三、压强

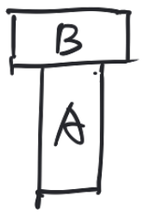
$$p=\frac{F}{S}=\begin{cases}\text{固}\ \dfrac{mg}{S}=\dfrac{\rho Shg}{S}=\rho gh & \text{柱体}\\ \text{液}\ \rho gh=\dfrac{\rho ghS}{S}=\dfrac{mg}{S}\end{cases}$$

固体

1、堆叠.



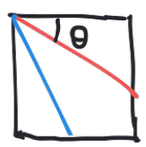
$p_A=\frac{G_A}{S_A}$　　$p_B=\frac{G_A+G_B}{S_B}$



$p_B=\frac{G_B}{S_A}$　　$p_A=\frac{G_A+G_B}{S_A}$

☆比例式计算法

2、切割 {
- 水平. $p=\rho gh$　$\Delta p=\rho g\Delta h$　$\Delta m=\rho\cdot S\cdot\Delta h\overset{\text{立方体}}{=}(\rho\cdot h)h\cdot\Delta h=\frac{ph}{g}\Delta h$
- 竖直. p不变
- 倾斜



$\theta<45°$，$\theta\uparrow$　$p\downarrow$

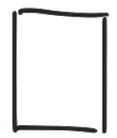
$\theta>45°$　$\theta\uparrow$　p不变

$p=\frac{1}{2}\rho gh$.

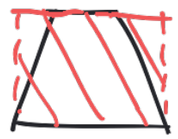
3、液压　$F_{液}=p\cdot S=\rho gh\cdot S=G_{虚拟液柱}$

$F_{固}=G_{液}$（不计杯重）

$F<G$

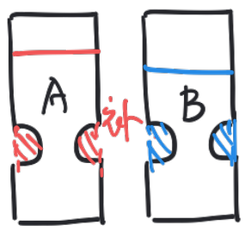


$F=G$



$F>G$

割补法



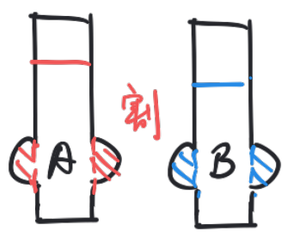
$m_A=m_B$

$p_A<p_B$

$F_{液}=G_{液}+G_{补}$

$G_{补A}<G_{补B}$

$p_A<p_B$



$m_A=m_B$

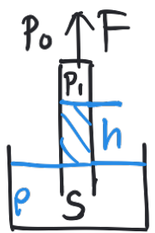
$p_A<p_B$.

$F_{液}=G_{液}-G_{割}$

$G_{割A}<G_{割B}$

$p_A>p_B$

4、气压



$F=m_{缸}g=\rho gh\cdot S=(p_0-p_1)S$

缸内液柱　　内外气压差

☆ 动态分析