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SCHMELZMETALL

WELCOME

HOVADUR®

Copper alloys



www.schmelzmetall.com

Die casting moulds



Special applications





Schmelzmetall Products and Solutions for gravity casting and low pressure die casting

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Hovadur® application areas

Gunmetal casting: bronze, brass

Kitchen armatures

Bath armatures

Water meters

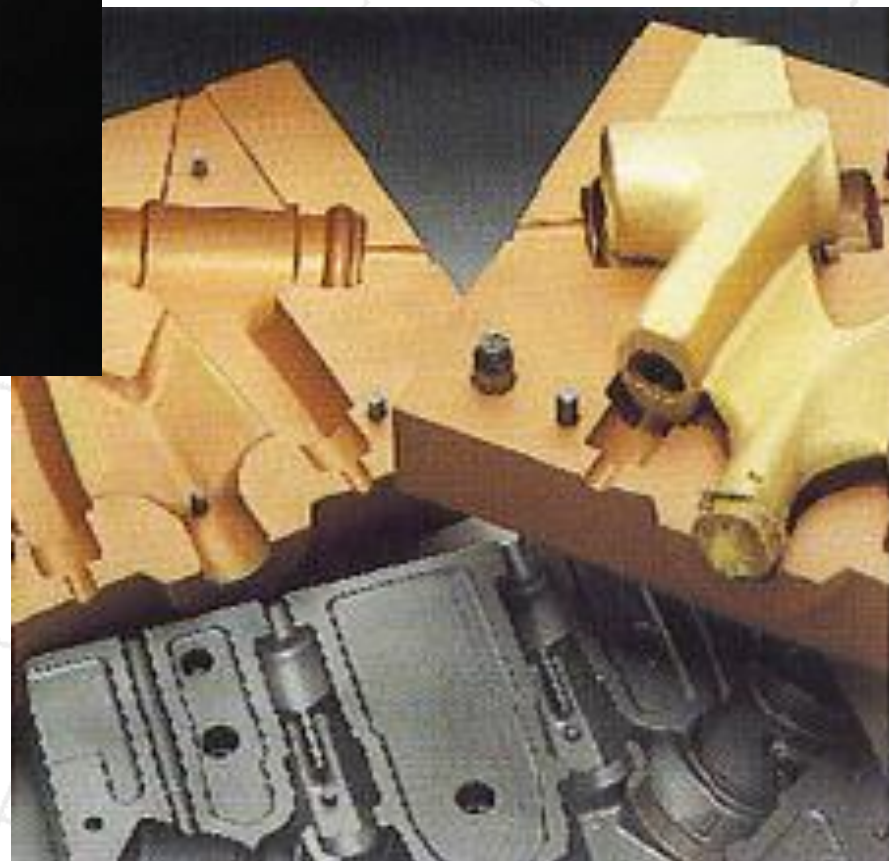
Valves

(first step into aluminum - gravity casting)

Die casting



Mould



Main requirements for mould materials:

- long life span**
- high quality castings**
- short hardening times**
- best cost/benefit ratio**

The life span of a mould depends on the thermal shock behaviour and the ability to resist heat cracking of the mould material

Evaluation of suitable materials

$$W_s = \Delta T * TEC * E$$

$$TSR = TC * SS / TEC * E$$

TC = thermal conductivity (W/mK)

SS = 0.2 % yield strength (N/mm²)

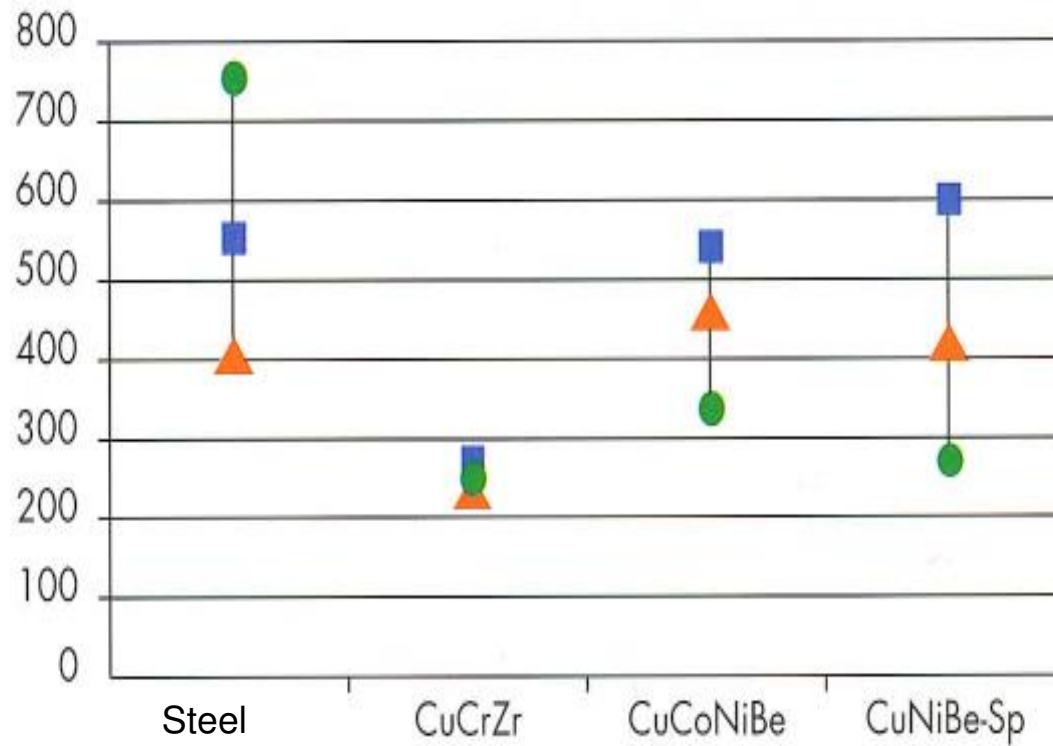
TEC = coefficient of thermal expansion (10⁻⁶/K)

E = E-modulus of elasticity

Spannungsvergleich der verschiedenen Materialien

Stress comparison of the different materials

Stress in
 N/mm^2



Yield point

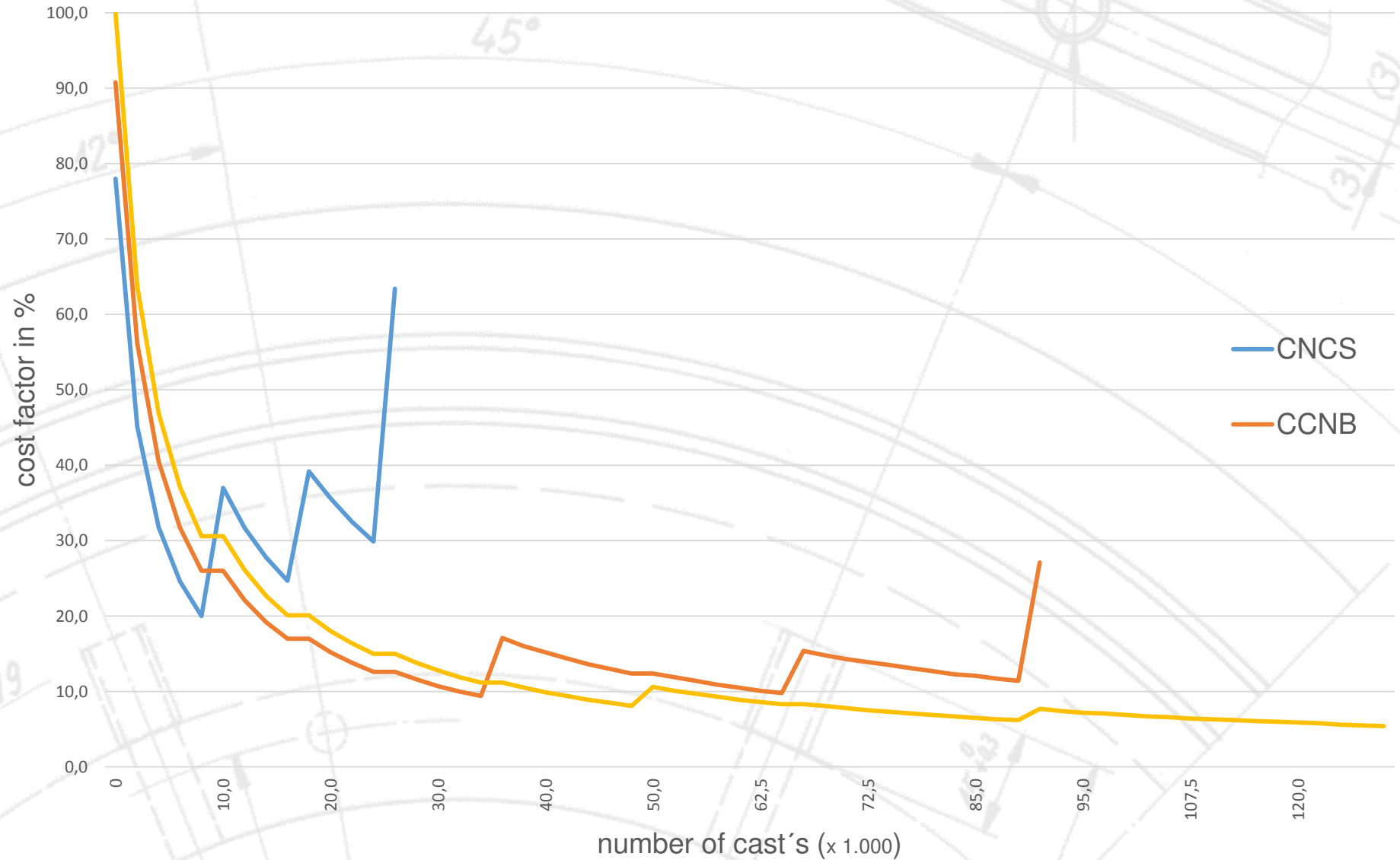


Tensile
strength



Thermal stress

relative cost factor of the die per cast

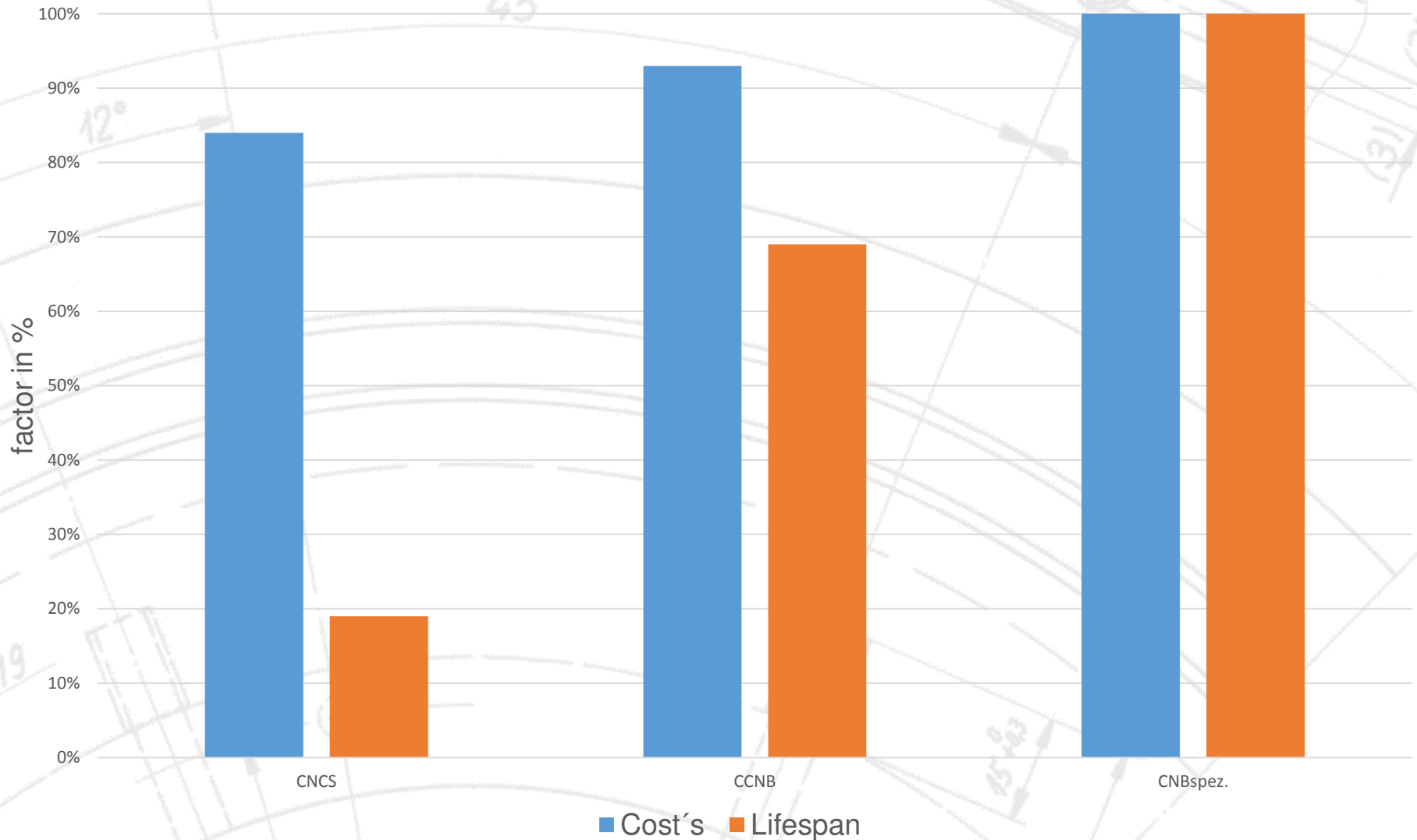




LP - DC

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Cost / Lifespan

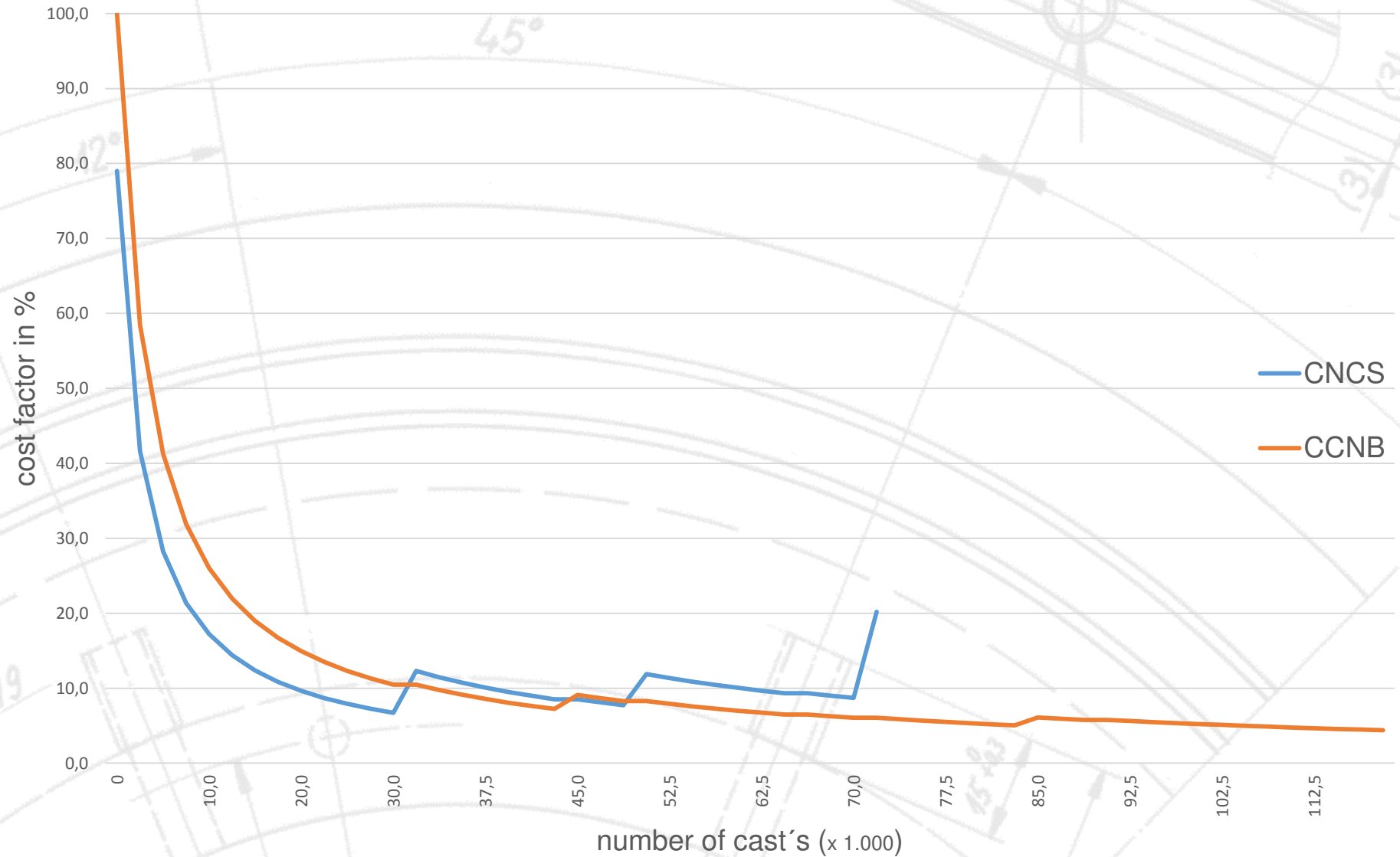




Gravity casting

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relative cost factor of the die per cast

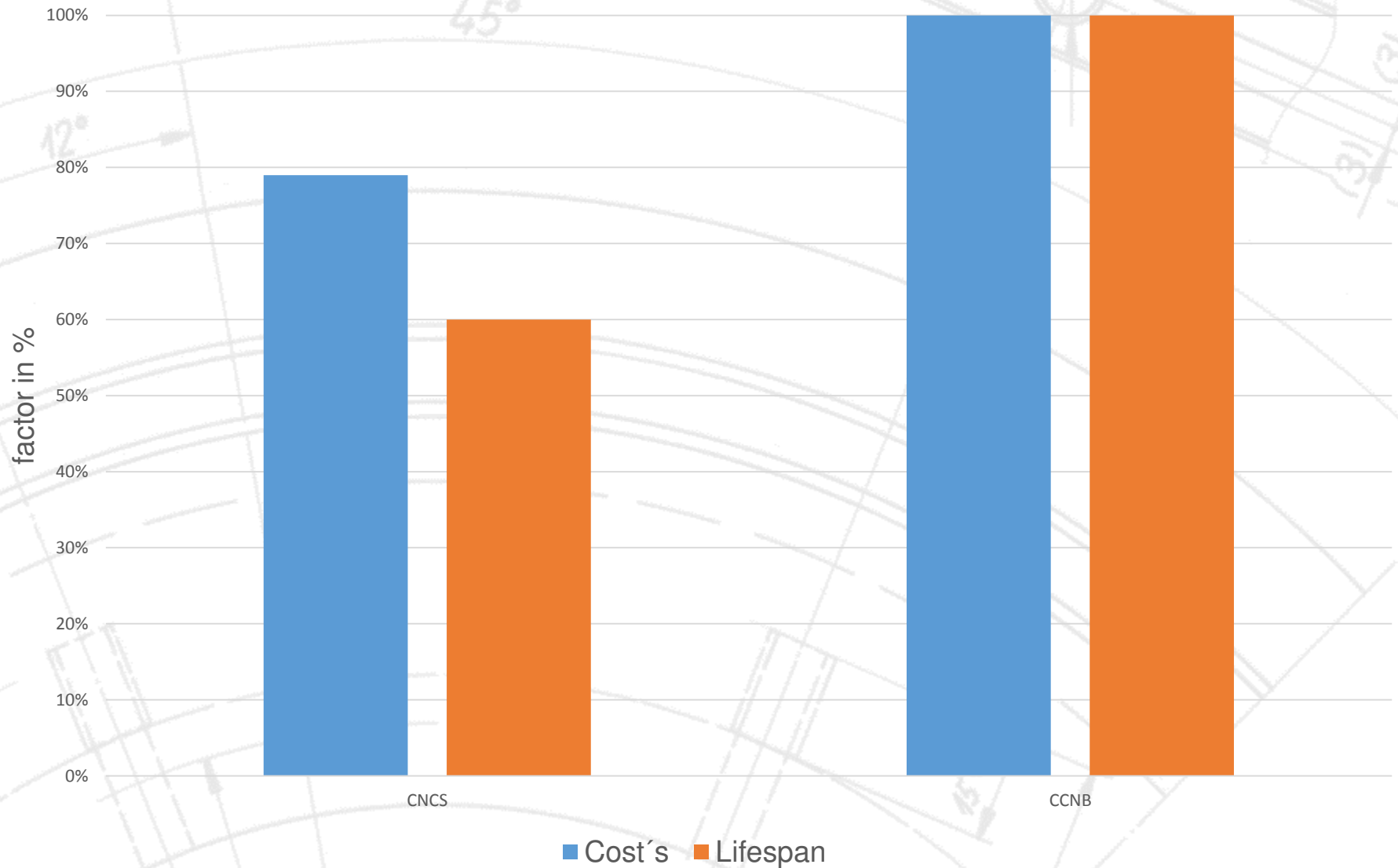




Gravity casting

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Cost / Lifespan



Our recommendations regarding the use of Hovadur® as mould material

Hovadur ®	Gravity		Low pressure
CNCS	X		
CCNB	X		X
CNBspez			X

Aluminium - gravity casting

Proof of eligibility of Hovadur® CCNBeh and CNBSpez. for the use in aluminium – gravity casting

Sample: gear box, stair lift



Aluminium - gravity casting

