



# SCREW WITH CAPTIVE SLEEVE

Reinforcements feature for plastic components

Special solution with screw and sleeve cold forged plus a system assembled by rolling operation on the sleeve. The reinforcing sleeves are usually cold forged using low-carbon steel.

## Manufacturing technologies

- Screw cold forged
- Sleeve cold forged using low-carbon steel
- System assembled by rolling operation on the sleeve

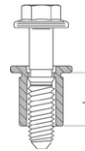
## Limits

- The sleeve must have the head
- The 2 parts are assembled after coating. Only the Zn-Ni is suitable.

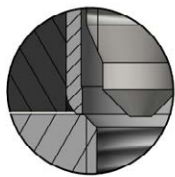
## Benefits of solution

- Screw already assembled
- Reduced assembly time in OEM line
- Reduced number of components

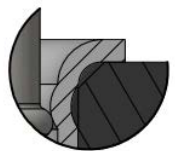
## Tolerance on sleeve total length



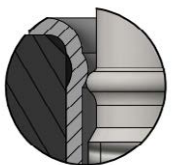
$\pm 0,1$  after assembly



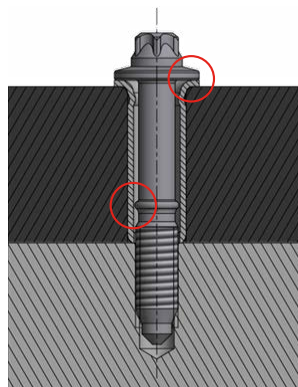
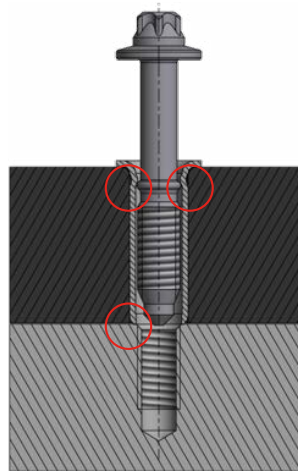
1. Reinforcement contact point



2. Bushing bearing surface



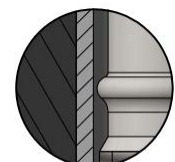
3. Captive system



1. Tightening bearing surface



2. Radial clearance for recovery misalignment



Screw With Captive Sleeve is a mechanical connection system covered by a patent for industrial invention developed by A.AGRATI S.p.A.