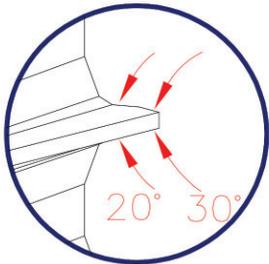


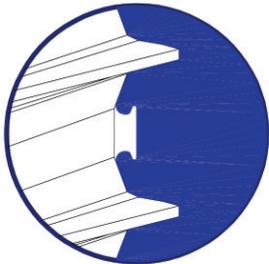


## DELTA PT®

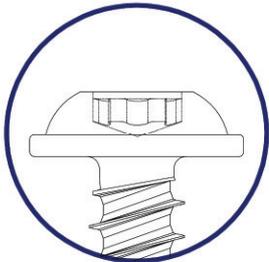
A Superior Thread-Former for Plastics



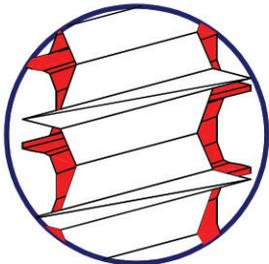
reduced radial stress



increased joint stability



excellent serviceability

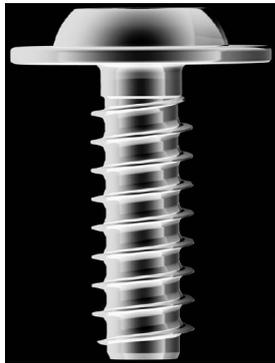


high mechanical strength



superior vibration resistance



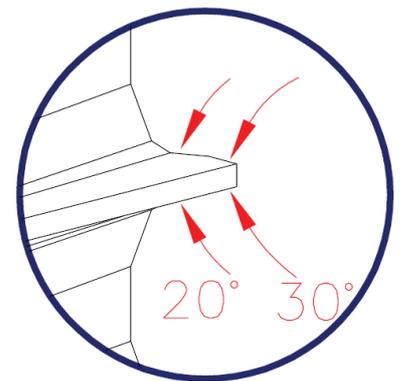


**The DELTA PT<sup>®</sup> is a thread-forming fastener designed for superior performance in thermoplastic and thermoset materials.**

## Reduced Radial Stress

### Innovative Flank Geometry

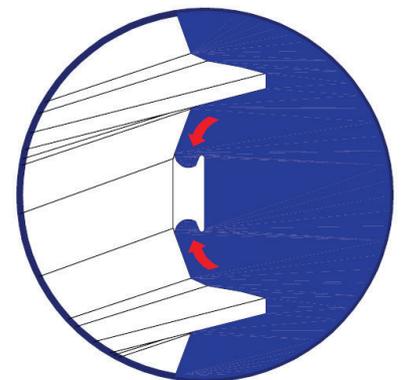
The unique flank geometry of the DELTA PT<sup>®</sup> is designed to reduce radial stress on the boss compared to typical 60° flank angles. The flank starts with a 30° angle which quickly backs off into a 20° angle. This allows completely unimpeded flow of the plastic material. The reduction in radial stress eliminates sink marks in the boss and allows for reduced wall thickness, leading to shorter molding cycle times and significant material savings.



## Increased Joint Stability

### Reinforced Cored Root

The multi-angled thread profile and unique cored recess of the DELTA PT<sup>®</sup> follow the natural flow of the boss material to provide maximum engagement. Fasteners with a flat root can cause material jam, which can create stress concentrations in the plastic and lead to cracking. The cored root eliminates stress concentrations and provides nearly 100% flank engagement in ATF recommended pilot holes, compared to only 60% flank engagement for most thread-formers.

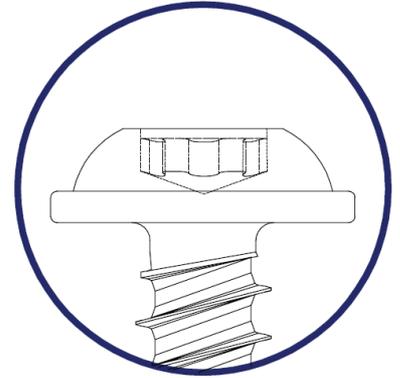




### Excellent Serviceability

#### Optimized Head Geometry

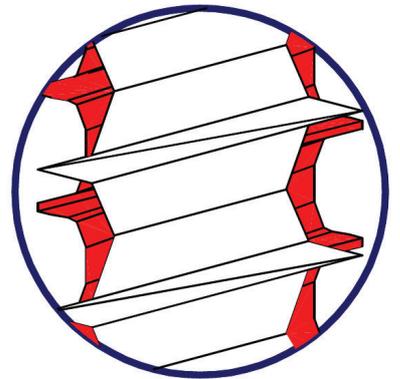
The DELTA PT<sup>®</sup> standard head sizes are designed with a large bearing surface and a deep drive recess penetration. The large bearing surface distributes pressure over a wider area of the boss, decreasing stress in the plastic that could lead to cracking and deformation. A large bearing surface enhances joint stability by reducing creep and increasing break-loose torque. The deep drive recess penetration of the Torx Plus<sup>®</sup> recess virtually eliminates the possibility of the recess stripping during installation and allows for multiple installations and increased joint serviceability.



### High Mechanical Strength

#### Large Minor Diameter

The increased minor diameter and larger cross sectional area of the DELTA PT<sup>®</sup> offer an increase in torsional and tensile strength of up to 50% over the previous generation PT<sup>®</sup>. As a result, the DELTA PT<sup>®</sup> can withstand the high torque requirements presented by thermoset and highly glass filled thermoplastic materials.



### Superior Vibration Resistance

#### Refined Helix Angle

The helix angle was developed by optimizing the relationship between the highest possible clamp load at low contact pressure in the plastic material. Due to the refined pitch, an increased number of threads are engaged in the boss when compared to other fasteners at equal installation depths. The optimum helix angle leads to a joint with high dynamic safety and vibration resistance.

