

IMPACT BALL

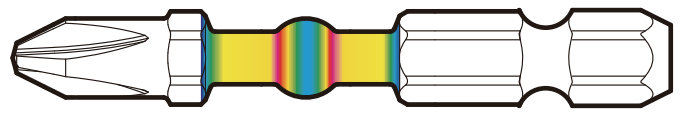


What is IMPACT BALL?

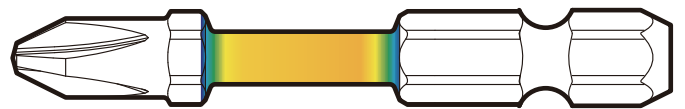
IMPACT BALL bits are designed to absorb impact not only in the standard torsion zone (shown as yellow), but also at the joint of the sphere and shaft. (shown as red).

In other words, this dual absorbing function can minimize impact on the tips.

The red part suppresses excessive impact and vibration during tightening. The yellow part also absorbs excessive impact during screw seating.



IMPACT BALL bit



Torsion bit

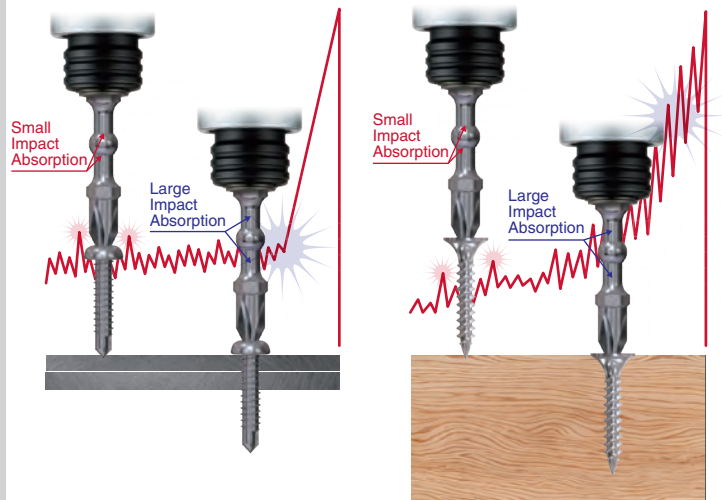
Impact Absorption



Why spherical?

Our evaluation tests have shown that the round-shaped joint has 40% to 80% more impact-suppressing effect than the standard flat shape. With this in mind, VESSEL has come up with a spherical design like a powerful "flexing bicep" for the new torsion bit.

It has succeeded in dramatically improving protection performance of the tip-end, compared to a standard torsion bit.



Dual impact-absorbing function



In 1961, VESSEL launched the world's first double-ended bit. Later, in 1997, in response to the development competition among power tool manufacturers seeking higher torque, VESSEL developed a plate-shaped torsion bit, followed by a cylindrical cross section bit in 1998 to further improve performance. In this way, VESSEL has established a dominant position in Japan as a pioneer in bit manufacturing.

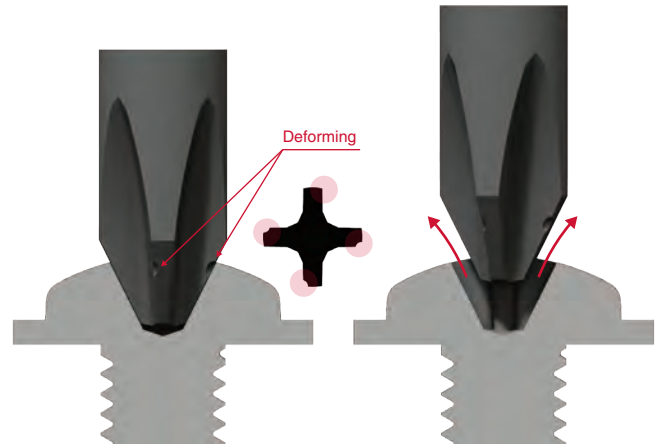


This is the Key Point!

Tip breakage occurs at the wings where they contact screws.

The more screws are tightened, the wings become loaded, get deformed, start cam-ing out and the wings can become broken at the end.

Therefore, it is important to minimize impact and vibration damage as much as possible.





Competitive Advantages!

In 2016, VESSEL's 100th anniversary year, we developed an original steel for bits that combines hardness and toughness, called VoHA steel (VESSEL Outstanding High-Performance Alloy). This steel provides much greater durability in addition to dual impact-absorbing function.

VoHA has the highest hardness of 62HRC which can be seen with its outstanding durability.

Therefore, without difficulty, it can tighten even high-impact screws such as self-drilling tapping screws or drilling screws used at construction sites.



Comparative data	Hardness	Toughness	Number of Screws Tightened	
				
IMPACT BALL+VoHA	62HRC	14.96N·m	38	25
Company A	58.6HRC	12.39N·m	1	6
Company B	57.7HRC	12.12N·m	4	3
Company C	59.3HRC	11.64N·m	12	13

