

# INTEGRAL BLADE STABILIZER

## Tailored to your exact need

Drillstar stabilizers are no showroom pieces, they are sturdy, rugged and easy to maintain, exactly what you need in the field. But their main advantage is total customization: we can tailor together the exact stabilizer you need to solve the problem you are facing in the field.

From unusual sizes to TSP hardfacings, blades shape or PDC backreaming inserts, we can deliver a custom solution to many challenges faced with standard stabilizers: gauge & shoulder wear, swelling formations, keyseating, etc. Drillstar stabilizers come in two types: BIB (Body Integral Blade) and SIB (Sleeve Integral Blade).

### BIB Stabilizer

Body integral blade stabilizers are cut out of a single piece of fully heat-treated AISI 4145H steel. They are the perfect design for small to medium-size stabilizers (12 1/4" and below), ensuring string integrity while remaining economical.

Hardfacing on the blades can be any of the three types below, or custom-made according to your needs (pressed inserts, trapezoidal blocks, TSP rows, etc.).

Feel free to contact us to find the best design for your project.

### Harfacing

Drillstar provides 3 types of standard tungsten carbide hardfacing for stabilizers. In addition, custom hardfacings are also available: TSP, impregnated diamond, pressed TCI, etc. Feel free to enquire for any special need:



#### TOPLOY

*Copper alloy hardness : 120 to 130 Hv  
Calibrated tungsten carbide grains. Hardness:  
1400 to 1700 Hv*

Satisfactory behaviour in soft formations. Easy to repair.



#### TOPFLAME

*Nickel alloy hardness : 430 to 450 Hv  
Calibrated tungsten carbide grains  
Hardness : 2000 to 2500 Hv*

Excellent behaviour even in hard and abrasive formations or in H2S environment. Adheres well to its support. Sound deposit, without cracks in spite of its extreme hardness.



#### TOPIC

*Resilient matrix and high resistance to abrasion  
Nickel alloy hardness : 400 to 450Hv  
Improved adherence between steel blade and hardfacing  
Tungsten carbide plates hardness : 1400 to 1700 Hv*

Excellent behaviour even in hard and abrasive formations. Excellent impact strength, resistant to abrasion and H2S corrosion.



8" BIB stabilizer



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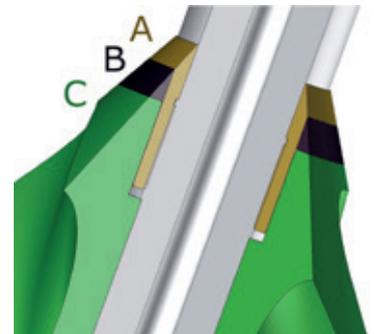
## SIB Stabilizer

SIB (Sleeve Integral Blade) is a unique stabilizer design developed by Drillstar to reduce the risks and costs associated with cracks on large integral stabilizers blades.

Many drilling engineers rely exclusively on body integral blade (BIB) stabilizers. Even though there is no risk of losing blades, repeated heating for rehardfacing may generate cracks in the high tensile alloy steel, resulting in shorter lifespan and higher operating costs.

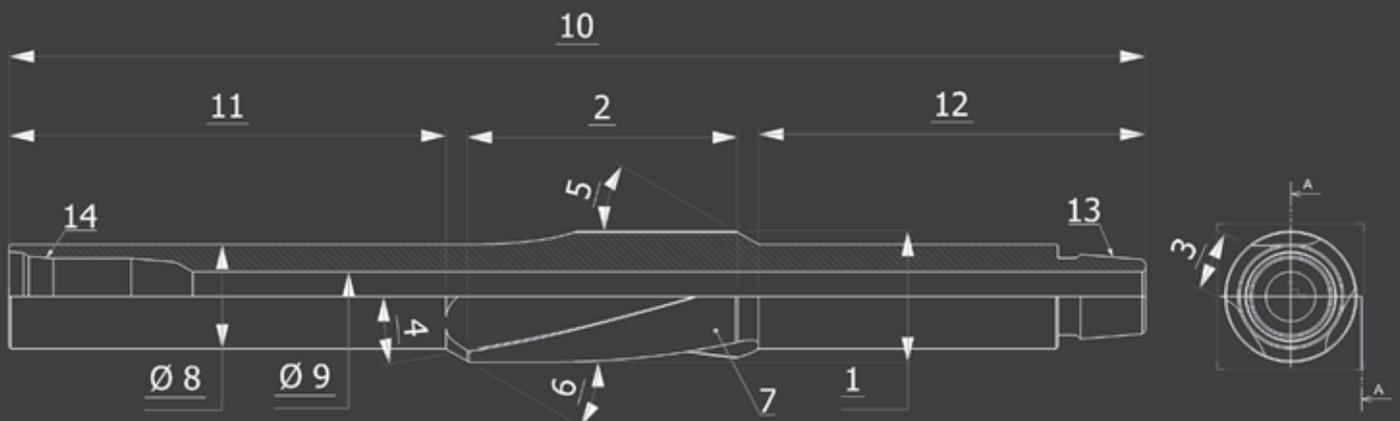
Drillstar engineering studies and field tests have shown that resistance to the heating cycles involved in rehardfacing is significantly improved if a different grade of steel is used for the blades.

To create a strong connection between the body and the bladed sleeve a nut (A) is set on a thread machined on the body (see sketch). Then the sleeve is preheated and shrink-fitted around the body and nut. The assembly is then completed by welding (B) of the nut (A) and the sleeve (C), both made of the same easy-to-weld steel. Thus, the sleeve can neither turn nor slide, and its strength is comparable to classic BIB designs.



SIB is available for diameters 12 1/4" and above, resulting in longer lifetime and lower operating costs for these expensive large-diameter stabilizers.

- ▲ Hole size and blade O.D. (1)
- ▲ Number of blades and wall contact (2)
- ▲ Blade width (3)
- ▲ Blade angle (4)
- ▲ Shoulder angles (5 and 6)
- ▲ Hardfacing type (7)
- ▲ Fishing neck O.D. (8), I.D. (9) and length (11)
- ▲ Bottom neck length - tong space (12)
- ▲ Bottom (13) and Top (14) connections



*Downhole Innovations, Made in France*