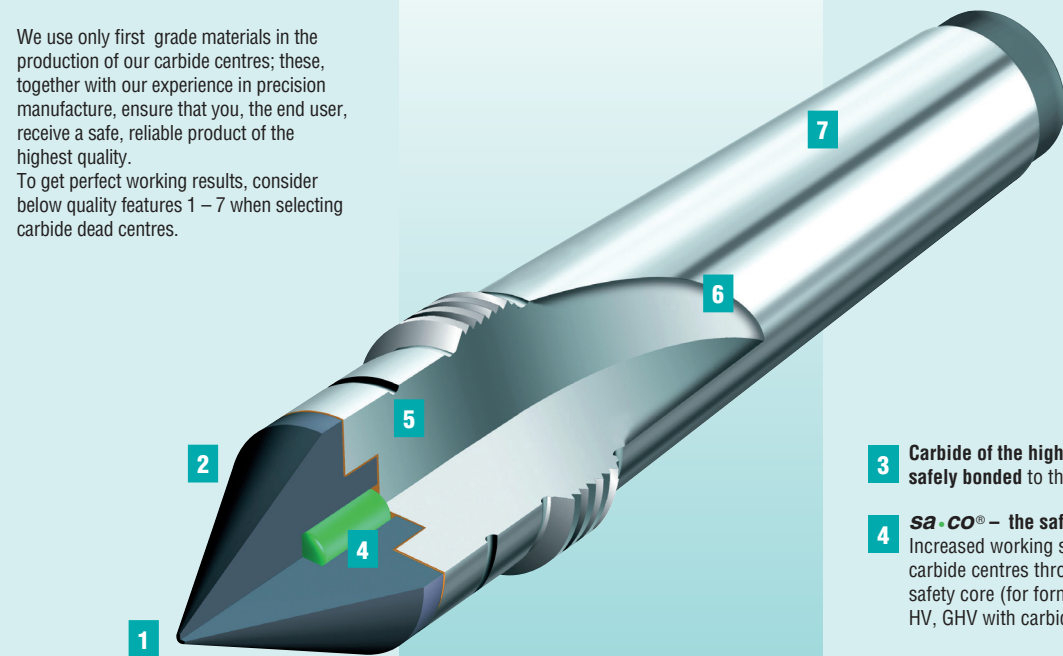


> Quality Features

We use only first grade materials in the production of our carbide centres; these, together with our experience in precision manufacture, ensure that you, the end user, receive a safe, reliable product of the highest quality.

To get perfect working results, consider below quality features 1 – 7 when selecting carbide dead centres.



1 Roundness
Roundness tolerance on carbide
 $t_{\max} = 0.8 \mu\text{m}$.

2 Runout tolerance
Smaller error of the 60 degree point relative to the taper shank according to BRUCKNER standards = up to 70% less error in comparison with DIN 806.

3 Carbide of the highest quality grade, safely bonded to the shank.

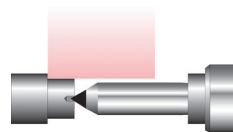
4 sa-co® – the safety core
Increased working safety for full carbide centres through the integrated safety core (for forms V, Z, GV, GZ, HV, GHV with carbide $\varnothing 20 - 45 \text{ mm}$).

5 Regrind groove
The end of the centre's useful life is shown by the regrind groove.

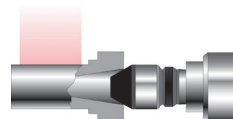
6 Hardened taper shank
The taper is surface hardened to protect from wear and damage.

7 Taper shank tolerance
Deviation of taper $\leq \text{AT}4$
to DIN 228 (gauge accuracy).

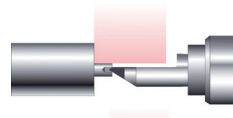
> Selection of centre forms to solve grinding problems



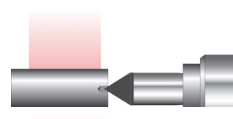
Short grinding length, wide grinding wheel:
Extended carbide centre
Form L



Large centre (bore):
Carbide centre with large stub carbide ring
Form Z, R, GR



Small diameter, short grinding length or face grinding:
Extended carbide centre, extra small flat height
Form HS, HV, GHS



Small to large centres:
Carbide centre with large pointed carbide insert
Form V, GV

> Programme review



Form V



Form GV



Form HV



Form GHV



Form Z



Form R



Form GR

The BRUCKNER safety core

sa-co®
safety core from BRUCKNER

is integrated into BRUCKNER full carbide centres, forms V, GV, Z, GZ, HV and GHV (carbide $\varnothing 20-45 \text{ mm}$). If the interface of carbide and centre shank becomes overstressed, e. g.



Form E



Form L



Form GE



Form HE



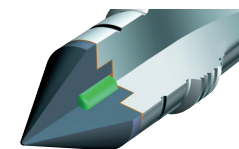
Form HL



Form HS



Form GHS



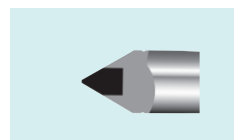
through handling errors, **sa-co®** prevents slipping of the carbide with loaded workpiece relative to the shank. Thus serious damage is avoided.



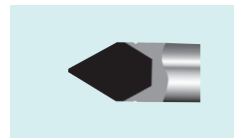
User Information for BRUCKNER Carbide Centres



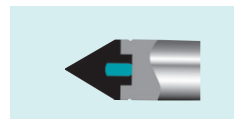
> Tips for safety at work



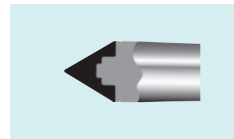
Cylinder



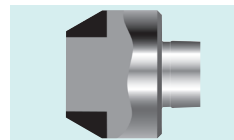
Taper



Face and cylinder with safety core **sa-co**



Cap



Ring

To ensure the highest possible safety in the application of our carbide centres we use only top quality carbide from selected and proven suppliers. Shape and size of the carbide together with the characteristics of the carbide material influence the fixing method. According to centre form the carbide is fixed to assure safety (see fig.).

Additionally the **BRUCKNER safety core sa-co** is integrated into the 20 to 45 mm diameter full carbide centres forms V, GV, HV, GHV, Z and GZ.



Regrind indicator groove



Regrind line (form R/GR)



BRUCKNER repair service

The useful life of BRUCKNER centres is shown by the regrind groove. For the forms R/GR the corner of the carbide/shank material is the valid limit (see fig.).

To avoid damage to the carbide (e.g. hairline cracking) we recommend making use of the **BRUCKNER repair service** for regrinding.

We regrind centres with perfect taper shanks to a roundness tolerance within t_{\max} 1.0 μm . We also assess and repair centres of other manufacturers.

With every application and before using, inspect carbide centres for damage, e.g. hairline cracks or chips. **If the carbide is damaged, the centre cannot be used (danger of accident).** We recommend returning the centres to our repair service for assessment.

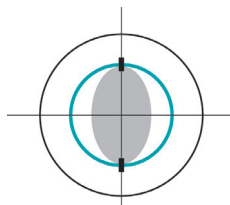
Use of carbide centres

Avoid:

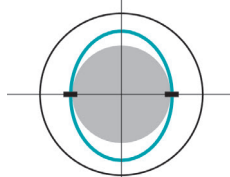
- **Impact type and shock type stresses.**
- **Improper storage.**
- **Uneven heating**, e. g. through touching the grinding wheel or by additional grinding forms and surfaces.

> Causes and correction of roundness errors in the workpiece

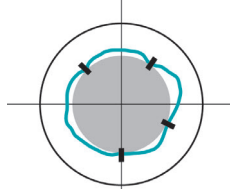
Possible causes Centre point is not round (e.g. two-point location)



Oval workpiece centre (two-point location)



Workpiece centre with three or more bearing points



- Centre point
- Workpiece centre

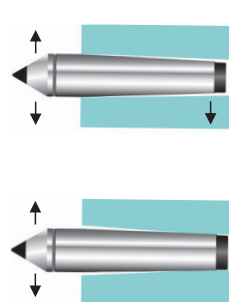
Corrective action

- Regrind centre to t_{\max} = 1.0 μm .
- Prior to purchase, check the roundness (t_{\max}) specified by manufacturers. BRUCKNER centres have t_{\max} = 0.8 μm .

- Pay regard to the roundness of the workpiece centre.
- Grind workpiece centre.

- By using BRUCKNER centres with a roundness tolerance of t_{\max} = 0.8 μm you will get a „round“ workpiece centre as at least three bearing points of the unround workpiece centre will locate on the round centre point.

Possible causes Taper error on the centre shank or in the spindle



Damaged taper shank



Cracks in the carbide



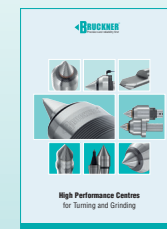
Corrective action

- Error on the centre taper: regrind the shank.
- Error in the spindle:
 - Match the centre taper to the spindle.
 - Regrind the spindle.
- The taper deviation of BRUCKNER centres is within the limits of AT4 (gauge accuracy).

- Soft taper shanks are susceptible to impact and shock. Surface damages (material spots) may be removed by oilstone. To avoid such damage BRUCKNER centre shanks are surface hardened.

- Take the centre out of service immediately – danger of accident.

> Learn more about our products on our website: www.karlbruckner.de



Live and dead centres for turning and grinding Catalogue SPE11



Carbide dead centres according to work standard Catalogue of the product range for STUDDER* grinding machines Special product range



Dead Centres with Seal Diameter for Mazak Machines with Stone Sealing



Mechanical face drivers Brochure SM



Face drivers with hydraulic compensation Brochure HS

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