

Solid Stainless Steel and Other Shafts for Durco Process Pumps

For general chemical use Flowserve recommends solid stainless steel shafts offering the following features:

- Reduce the harmful effects of deflection and vibration
- Offer corrosion resistance over the entire length of the shaft
- Eliminate rust problems associated with carbon steel
- Save costs by standardizing on a single technical solution



Shaft and Sleeve Options

Alloys and configurations are available to satisfy special needs or preferences.



Composite: a steel shaft end-to-end with an integral sleeve of DC8; SD77 high silicon iron; or ceramic (alumina or zirconia)[†]

[†]DC8 and SD77 are proprietary materials of Flowserve Corporation. For more information see Flowserve Bulletin P-10-501a.

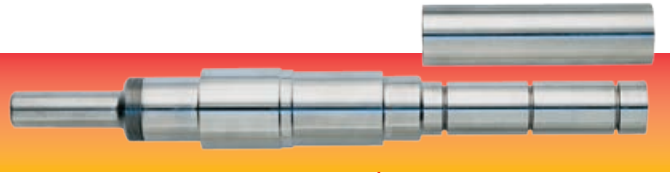
Friction-Welded: a steel power end friction welded to a solid alloy wet end

Hook Sleeve: a steel shaft end-to-end or a steel power end friction-welded to a stainless wet end accommodating a hook sleeve

Flowserve Alloy Identification – Shafts*

Shafts	Symbol	Alloy (power end/wet end)	Brinell Hardness (nominal)
Composite	BBC8	(1144 Steel/DC8)	300
	BB77	(1144 Steel/SD77 Hi Si Iron)	520
	BBC3	(High purity ceramic [alumina])	–
	BBSZ	(1144 Steel/Ceramic [zirconia])	–
Friction Welded	ZH	(Steel/316SS)*	160
	ZC20	(Steel/C20)	130
	EHB	(304SS/Hast B) [®]	230
	EHC	(304SS/Hast C) [®]	220
Solid	BB	(1144 Steel)*	200
	304	(304 SS)	155
	316	(316 SS)*	160
	HB	(Hast B) [®]	230
	C276	(Hast C) [®]	220
	4140	(4140 Steel)*	–
	CK45	Steel	200
	4462	Duplex SS	260
	2205	Duplex SS	260

*Also available in hook shaft



Advantages:

- Strength of steel
- Rigidity of a solid shaft
- Corrosion and abrasion resistance of specialty alloys

Benefits:

- Seals last longer
- Bearings last longer
- Materials last longer

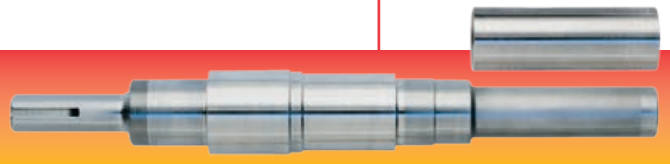


Advantages:

- Strength of steel
- Rigidity of a solid shaft
- Alloys match pump wet end

Benefits:

- Seals last longer
- Bearings last longer
- Material life equal to wet end



Advantages:

- Strength of steel
- Wide range of alloys
- Quick, easy seal replacement
- Suitable for packing

Benefits:

- Cost savings from quick maintenance turnaround
- Low parts cost

Flowserve Alloy Identification – Sleeves*

Symbol	Alloy	Brinell Hardness (nominal)
DC2	Chlorimet 2 (Hast B) [®]	230
DC3	Chlorimet 3 (Hast C) [®]	220
DC8	Cobalt-based, proprietary	300
DM	Monel [®]	150
DNI	Nickel	130
D4	316 SS	160
A20	Durimet 20	130
316	316 SS	160
TIW	Titanium	200
TIPW	Titanium, Palladium stabilized	200
ZRW	Zirconium	200

*Other alloys available upon request.

[®] Hastelloy is a registered trademark of Haynes International, Inc.

[®] Monel is a registered trademark of International Nickel Co., Inc.

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