








# ROTEX® GS



## Backlash-free jaw couplings

### Spiders

The flexible spiders for the GS series are available in five different kinds of Shore hardness, injected in different colours, either as a torsionally soft or hard material. These five spiders with different kinds of Shore hardness allow to easily adjust the ROTEX® GS to the individual conditions of an application considering the torsional spring stiffness and the vibration behaviour. The flexible prestress varies depending on the coupling size, the spiders/materials and the production tolerances. Resulting from it is the axial plug-in force starting from low as a close sliding fit or with torsionally soft spider to heavy with big prestress or torsionally rigid spider (see operating/assembly instruction KTR-N 45510 at [www.ktr.com](http://www.ktr.com)).

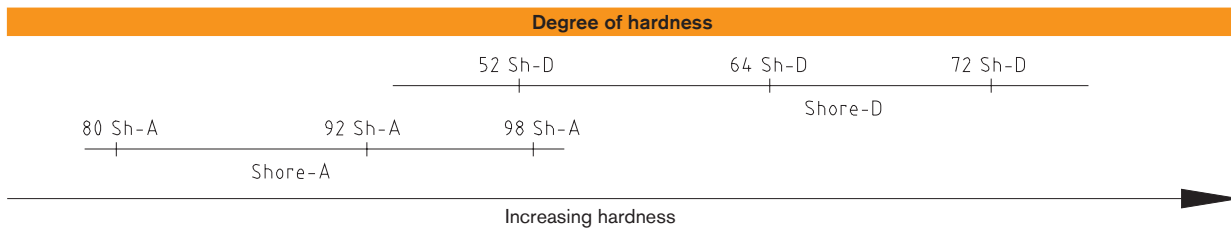
Along with an increasing hardness of the spider the torques to be transmitted and the stiffness of the spider increase, too. Along with reduced hardness of the spider the ability of compensating for displacements and damping the spider is increased.

Properties of ROTEX® GS spiders						
Description of spider hardness [Shore]	Marking of colour	Material	Perm. temperature range [°C]		Available for coupling size	Typical applications
			Permanent temperature <sup>1)</sup>	Max. temperature (short-time) <sup>1)</sup>		
80 ShA-GS		Polyurethane	-50 to +80	-60 to +120	Size 5 to 24	- drives of electric measuring systems
92 ShA-GS		Polyurethane	-40 to +90	-50 to +120	Size 5 to 55	- drives of electric measuring and control systems - Main spindle drives
98 ShA-GS		Polyurethane	-30 to +90	-40 to +120	Size 5 to 90	- Positioning drives - Main spindle drives - high load
52 ShD-GS <sup>2)</sup>		Polyurethane	-40 to +120	-50 to +150	Size 24 to 42	- Positioning drives - backlash-free gears - Main spindle drives - High load with increased temperature
57 ShD-GS		Polyurethane	-30 to +90	-40 to +120	Size 19 to 48	- Positioning drives - Main spindle drives - high load
64 ShD-H-GS 64 ShD-GS		Hytrel	-50 to +120	-60 to +150	Size 7 to 38	- Planetary gears/backlash-free gears - higher torsion spring stiffness
		Polyurethane	-20 to +110	-30 to +120	Size 42 to 90	- higher load - higher torsion spring stiffness
72 ShD-H-GS 72 ShD-GS		Hytrel	-50 to +120	-60 to +150	Size 24 to 38	- very high torsion spring stiffness - very high load
		Polyurethane	-20 to +110	-30 to +120	Size 42 to 90	- very high torsion spring stiffness - very high load

Properties of ROTEX® GS HP tooth elements						
Description of spider hardness [Shore]	Marking of colour	Material	Perm. temperature range [°C]		Available for coupling size	Typical applications
			Permanent temperature	Max. temperature (short-time)		
98 ShA-GS 52 ShD-GS		Polyurethane	-30 to +90	-40 to +120	Size 24 to 65 (for ROTEX® GS HP only)	- HSC main spindle drives - Test benches with severely high speeds
64 ShD-GS		Polyurethane	-30 to +90	-40 to +120	Size 24 to 65 (for ROTEX® GS HP only)	- HSC main spindle drives - Test benches with severely high speeds - higher load - higher torsion spring stiffness

<sup>1)</sup> The temperature factors specified on page 23 must be considered.

<sup>2)</sup> Torques and displacements same as with 98 ShA-GS spider



Spider material	Polyurethane			Hytrel
Degree of hardness	92 Shore A	98 Shore A	64 Shore D	64 Shore D
Relative damping $\psi$ [-] <sup>1)</sup>	0.80	0.80	0.75	0.60
Resonance factor $V_R$ [-] <sup>1)</sup>	7.90	7.90	8.50	10.5

<sup>1)</sup> Special figures apply for ROTEX® GS HP, please contact us.