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 characteristics. 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 resp. with torsionally soft spider to heavy with big prestress resp. torsionally rigid spider (see operating/assembly instruction KTR-N 45510 at 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 increases.

Properties of ROTEX [®] GS spiders							
Description of spider hardness [Shore]	Marking of colour	Material	Perm. tempera Permanent temper- ature 1)	ture range [°C] Max. temperature (short-time) 1)	Available for coupling size	Typical applications	
80 ShA-GS	×.	Polyurethane	-50 to +80	-60 to +120	Size 5 to 19	- drives of electric measuring systems	
92 ShA-GS	Ç,	Polyurethane	-40 to +90	-50 to +120	Size 5 to 38	 drives of electric measuring and control systems main spindle drives 	
98 ShA-GS	Ç,	Polyurethane	-30 to +90	-40 to +120	Size 5 to 90	– positioning drives – main spindle drives – high load	
52 ShD-S-GS 2)	×	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 65	– 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	Ç	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	Marking of colour	Material	Perm. temperature range [°C]		A 1111 C			
of spider hardness [Shore]			Permanent temper- ature	Max. temperature (short-time)	coupling size	Typical applications		
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 		
65 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 		

¹⁾ The temperature factors specified on page 23 must be considered.
²⁾ Torques and displacements same as with 98 ShA-GS spider

		Degree	e of hardnes	S	
		52 Sh-D	57 Sh-D	64 Sh-D	72 Sh-D
80 Sh-A	92 Sh-A	98 Sh-A	1	Shore-E)
	Shore-A				

Increasing hardness

Spider material		Hytrel				
Degree of hardness	92 Shore A	98 Shore A	52 Shore D	57 Shore D	64 Shore D	64 Shore D
Relative damping ψ [-] 1)	0.80	0.80	0.75	0.75	0.75	0.60
Resonance factor V _R [-] 1)	7.90	7.90	8.50	8.50	8.50	10.5

1) Special figures apply for ROTEX® GS HP, please contact us.

GS

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