



SCHWING®

Hydraulic Oils

ISO viscosity VG 32 = winter in northern US and Canada

ISO viscosity VG 46 = summer in northern US and Canada

ISO viscosity VG 68 = tropical areas, desert summers, indoor uses .

Brand	Viscosity / DIN quality designation		
	VG 32 / HLP	VG 46 / HLP	VG 68 / HLP
Texaco Rando HD*	HD 32	HD 46	HD 68
Texaco Rando HDZ**	HDZ 32	HDZ 46	HDZ 68
Mobil DTE	DTE 24	DTE 25	DTE 26
Shell Tellus	32	46	68
Aral Vitam	GF 32	GF 46	GF 68
BP - Energol	HLP 32	HLP 46	HLP 68
Esso - Nuto	H 32	H 46	H 68
Total - Azolla	ZS 32	ZS 46	ZS 68
Wintershall - Wiolan	HS 32	HS 46	HS 68

* Rando HD 46 is installed in new machines at the Schwing Factory - standard
 ** Rando HDZ is available for installation in new machines from the Schwing Factory - optional

- The order of the list is meaningless. Any oil that meets the HLP quality designation and ISO viscosity specification may be used.
- Mixing oils by different manufacturers is not recommended. The additive packages of the manufacturers may be incompatible. Contact the oil manufacturers for information before mixing.
- New hydraulic oil is not clean enough for use in a Schwing concrete pump or placing boom and should be installed in the machine through a filter. The filtering should be done at $\beta_{25} = 200$ or finer.

- The following table shows the characteristics of Rando HD 46. You may use this information for comparison with other brands.

ISO Viscosity Class	Viscosity cST @ 40 C	Viscosity cST @ 100 C	Viscosity Index	Gravity API	Flash point F	Pour point F	Foam, Seq II ml foam @ 0/10 minutes
VG 32	30.1	5.3	106	30.7	385	-25	20/0
VG 46	46.2	6.9	105	29.3	425	-20	20/0
VG 68	65.5	8.7	103	28.6	445	-20	20/0