

*litespeed*® – A NEW DEVELOPMENT  
FROM GROZ-BECKERT FOR HIGH  
SPEED LARGE DIAMETER KNITTING  
MACHINES



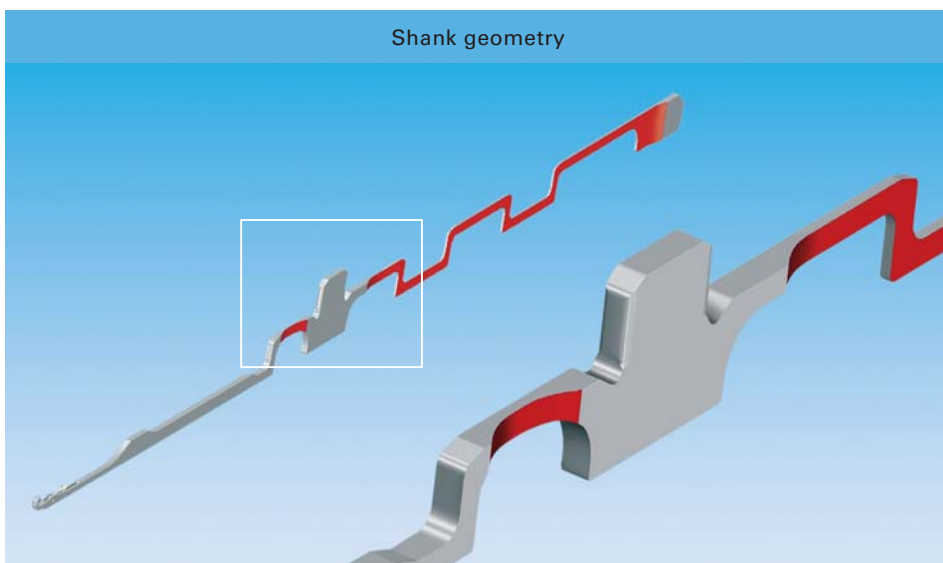
Advantages of *litespeed*® needles

- Reduced machine temperature by up to 20 %
- Decreased energy consumption by up to 20 %
- Increased productivity

## WHAT IS *litespeed*® ?

*litespeed*® is a patented new knitting needle development from Groz-Beckert for highspeed large diameter circular knitting machines. The needle dimensions of the *litespeed*® exactly match the dimensions of the corresponding standard needle. By partially diminishing the thickness of the needle shank, a reduction of the needle weight and of the friction between needle and trick

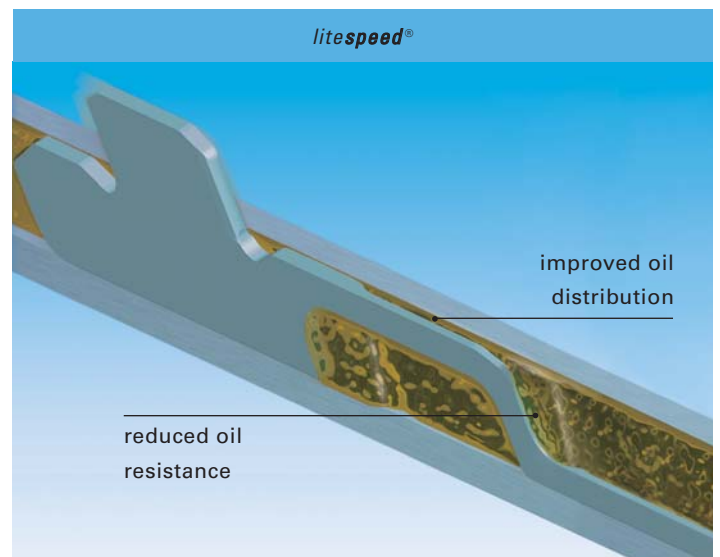
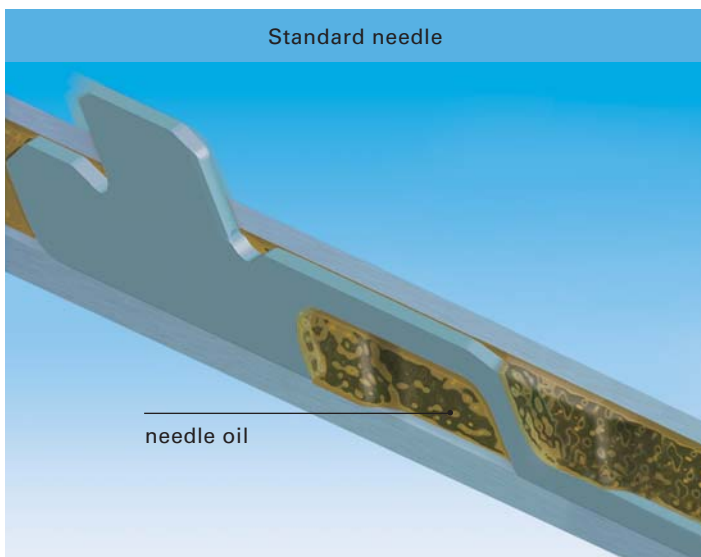
walls is achieved. Therefore, less energy is needed for the needle movement. As a result of this, the energy consumption decreases and lower machine temperatures can be achieved. In addition to this, the reduced machine temperature and needle weight minimize wear to the needle butt and cams.



The picture shown on the left visualizes the shape of a *litespeed*® needle. The enlarged image shows the partially reduced areas of the needle shank.

Due to this shank geometry, the *litespeed*® needle is more flexible, therefore, the needle is more resistant to needle breakage at higher machine speeds.

The partially reduced thickness of the needle shank improves the distribution of the needle oil. As a result of this, the knitting machine runs cooler, the oil consumption decreases and the oil fogging is minimized.

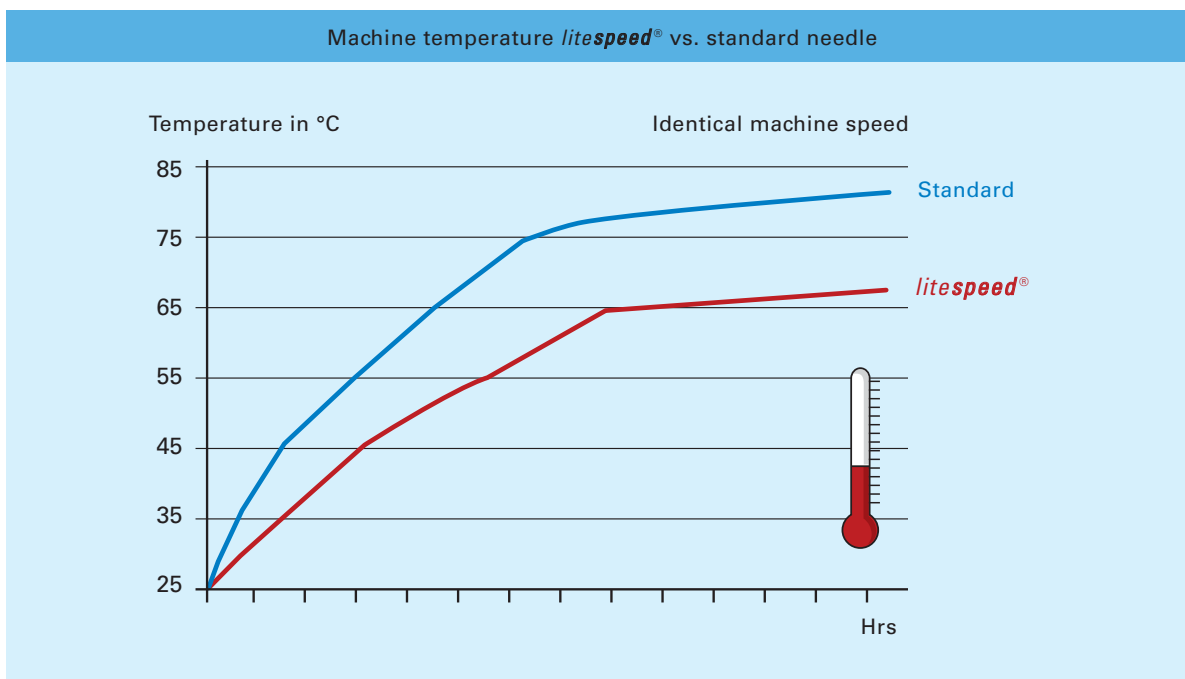


# INFLUENCE ON MACHINE TEMPERATURE AND ENERGY COSTS

*litespeed*® reduces machine temperature

Modern high speed large diameter circular knitting machines are often subject to speed limitations due to temperature problems. Needle cylinder and cams can reach temperatures of up to 100 degrees Celsius causing handling problems when needles and sinkers have to be replaced.

By using *litespeed*® needles a reduction in the machine temperature of up to 20% can be achieved.



*litespeed*® reduces energy costs

Example for energy costs – Cost savings with <i>litespeed</i> ® needles		
Machine:	single jersey 30", E 24, 33 rpm, 2268 needles	
Energie consumption:	standard needles Wo 146.52 G 001 - G 004	3.4 kW
	<i>litespeed</i> ® needles Wo-LS 146.52 G 001 - G 004	2.8 kW
	difference	0.6 kW
	equals 17 %	
Needle life:	per needle set	4,000 h
	4.000 h x 0,6 kW	= 2,400 kWh
Energy costs:	0,10 € per kWh	
Cost savings per needle set:	2.400 kWh x 0.10 €/kWh	= 240 €
Cost savings per 1000 needles:	240 € savings per needle set x 1000 needles	= 106 €
	2268 needles per needle set	

