



NO CARRIER!

IN AN OPEN ARTICLE, PETER THEEL OF SRS DISCUSSES WHY HIS COMPANY CHOOSES NOT TO OFFER A 'NO CARRIER' STARCH SYSTEM TO HIGH VOLUME BOX PLANTS AROUND THE WORLD.

SRS does not sell or manufacture a 'No Carrier' starch mixing system. Why? When the 'No Carrier' system was introduced and our partner Ringwood started to manufacture these systems, the positive arguments were:

- Viscosity control;
- Stable viscosity;
- Little splashing;
- High speed;
- Use of waste water.

After some time, the industry found out that there are also several limitations, including:

- Starch can only be corn starch and must be of good quality;
- pH value of water (waste water) must be controlled, since variation resulted in different gel points;
- low gel temperatures are not possible;
- system supplier controls the recipes.

Stein Hall the answer

In most countries, the use of untreated waste water is not allowed or is considered unacceptable. The viscosity measuring unit needs to function perfectly, since it triggers steps in the programme. Because of the limitations and sometimes inefficiency of viscosity metres (which can be very sensitive to cleaning), other hybrid systems were developed, such as Minocar and Pristin, for example.

With the introduction of the Hi-Shear mixing system and the possibility to quickly make batches of glue with different recipes dependent on where it was used, the proven Stein Hall process became the preferred choice for most, if not all box plants in Europe and the USA. Benefits include:

- Hi-shear systems give exact viscosities, since the dosing of ingredients is done within tight limits;

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- Viscosity stability because of Hi-Shear in the system, rather than in the recirculation;
- Low gel points possible;
- All starches possible – corn, wheat, potato, tapioca, peas, cassava etc;
- User can easily change recipes;
- High speeds, sometimes with additives;
- Use of (treated) waste water.

High performance plants worldwide have tried using the ‘new’ No Carrier process and stopped doing so with a clear and convincing argument:

- “The required viscosity is indeed correct, however gelpoints, which we consider much more important, were all over the place and gave us serious problems in reaching maximum speeds.”
- “Carrier-system offers the flexibility to adjust glue properties (viscosity, gel temp, rheological properties, and bonding) through carrier part.”

- “For high speed or high size press paper, specially modified starch is used as carrier part to stabilise viscosity, improve bonding and setting time and increase production speed.”

SRS in China and Ringwood in the USA have therefore decided that, although the initial arguments were positive for a ‘No Carrier’ system, that supplying these systems is not giving the results to the user that makes long term sense. We also found that quite a number of systems are being used as Stein Hall systems after all, while the software remains closed for users. This may make sense if the user wants the supplier of the system to be the only one that can change recipes and advise on which ingredients (additives) are necessary to make the system perform well. We prefer the user to have the freedom to chose and decide, with our support and recommendations, but without being locked-in.



Peter Theel held various positions with S&S Corrugated Paper Machinery until 1983. He then became Managing Director of Serco Holland, introducing Hi-Shear Starch mixing technology and supplying materials handling equipment into Europe through to 2000. He was then appointed as Vice President Sales for Alliance Machine Systems Europe until 2003. Theel is now President and co-owner of SRS in Shenzhen, China, which is the Joint Venture between Serco and Ringwood, launched in 1995, supplying starch mixing systems worldwide.

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