

Pretex: An Unusual Map Synthetic

prepared by Ken Dowling of Eureka and Jim Russell of Bendigo. v11Sep2010

Pretex is proving again and again to be a top notch, digital press, synthetic map stock for orienteering. Hardly surprising given that it is the preferred orienteering waterproof map stock in much of Europe¹ and that recreational maps is a key market for Pretex in Europe.

Jim Russell (Bendigo Orienteers) initiated a search for a waterproof map stock suited to digital presses, for nine of the 2009 Bushrangers Challenge events. Given that Ken Dowling was running a design and print centre at the time and has an interest in the quality of orienteering maps, Jim asked him to assist.

The Range

Synthetic stocks sporadically used in Australian orienteering were Teslin, Picofilm, Nevertear and Durapaper.

Teslin was the most popular and appeared to have just one issue standing in the way of frequent use. It was proving difficult to auto feed through digital presses. Not surprising given that it is intended for offset presses. With 3,500 maps to print, we did not want to emulate the reported experiences of Queensland and Tasmania in feeding sheets through one at a time. Teslin is subject to discolouration especially from pollutants.

Picofilm is very high white but extremely springy making it difficult to fold.

Nevertear is by far the strongest of all these stocks. But it proved unsatisfactory in the wet at a 2008 Castlemaine event and again on Day 3 of the 2008 Xmas 5 Days. When wet from rain or sweat, toner lost adhesion when the map was scraped on trees or rocks. It is also quite springy which hampers folding.

Durapaper folds easily and toner adheres well. It has been used successfully in a very wet enduro mtb-o event. But it is the most off-white of these stocks and at 250gsm is on the heavy side for foot orienteering. It will tear in one direction.

Yupo (often misspelt as Yuppo) and **Tyvek** warrant a brief mention as orienteers unaware of their history raise them as potential stocks. Neither to my knowledge will work in a toner based digital press. But even in offset printing they were abandoned. Tyvek because it absorbed mud and blood too easily thus obscuring print. Yupo because it tears too easily in one direction when nicked on an edge.

Pretex Research

Because of the auto feed issue with Teslin, the search was on for an alternative. Pretex came quickly to the fore through mention by Craig, who had returned from O-Ringen,

¹ based on www searches: mentions of synthetic stocks associated with orienteering; evaluations of Pretex synthetic stock use in orienteering.

and showed the paper to Jim Russell. Hits on the web included a positive report in UK CompassSport which was supported by a London Orienteering Klubb report.

Then Steve Peacock gave us a lead to Stirling Maps, a significant Pretex map printer. Enquiries showed that it had been in use by many UK clubs over 3-4 years and it was also used by another UK orienteering map printer. This was taken by us as a very positive recommendation.

The manufacturer was very helpful with specifications and samples, the latter including recreational maps — another good sign given their outdoor use for prolonged periods and multi-folds of such maps. Test printing on the digital press version of the stock went well, the only 'negative' being the slightly off white colour. Jim started testing it in the field.

A surprise was the use by at least one printer of an 'offset print' version of Pretex without any problems. This was attractive because the 90 and 120gsm digital Pretex is uncoated and can take on mud more than the coated 'offset' Pretex. Samples were obtained and testing showed that a new digital press in one Worldwide Online Printing Centre handled it beautifully. So Jim was into another round of field testing that included using one of the maps as a dishcloth, wringing it out then using it the on a map run next day.

Continued research of Pretex showed both the digital and offset Pretex is commonly used for orienteering maps by a number of mainland European clubs and printers.

Jim's exhaustive field testing showed no flaws apart from its potential to tear in one direction under considerable pressure. Given that a paper map in a plastic bag would fare no better (worse in rain), that was not a barrier. Ken's high tech weather and sweat simulator delivered a scrunched but perfectly legible map (photo).



The stock is not available in Australia so we ordered the 120gsm weight through a UK orienteering maps printer.

"The proof of the pudding is in the eating"

The Bushrangers Carnival threw up all sorts of conditions. There were positive comments, some negative but the majority of orienteers obviously ate well. Here are the negative comments and our responses;

"When it was wet it felt soggy". 2 reports.	It didn't affect their use of the map in any way
"It stuck to the map underneath". 2+ reports.	All synthetic stocks have this issue to some degree. The solution is to have a separator in the map box that the orienteer can place under their copy. This is a not uncommon practice with paper maps too.

Pretex Events to Date

Bushrangers Carnival, varying weather - 9 events, 4,600+ maps

Cyclic Navigator enduro mtb-o, wet. 66 SRA3 maps.

NOL Castlemaine, humid. 331 SRA3 sheets.

Primary Schools Champs, 2010.

Secondary Schools Champs, 2010.

WOC 25 anniversary event at Kooyoora, wet bush.

Technical

Considerable effort by Jim and Ken went into establishing the best specification and process at these stages of map production: OCAD for colour on the slightly off white stock; Condes for colour and for print file output; the printing process given it is an offset stock being printed digitally.

These specifications, including compatible digital presses, may be downloaded from mapsport.net.au. Pretex has no optical whiteners and this is a key contributor to long archival life². The off-white is not ideal for orienteering but good ink colour selection can compensate to a fair degree.

Why is Pretex an unusual synthetic? Firstly because it is a combination of paper pulp and synthetics. Secondly, during production no environmentally hazardous substances are used and during incineration or burial, no harmful products are released.

Both Jim and Ken welcome queries in the pursuit of higher quality orienteering map printing.

2 The ink or toner might well fade before Pretex or Teslin deteriorates.

Future Use in Australia

We believe there is a continuing place for Pretex in Australian orienteering maps. For some it may be to avoid the hassle of Teslin auto feed issues. For Jim and I, it is because it is so like paper to handle. That attribute is probably because Pretex is a combination of pulp and synthetic fibres.

Pretex 120 gsm **digital** stock (**30.120**) is commonly used in the UK and as it can be used successfully in many digital presses, there is no barrier apart from availability. 90gsm is also available. Being uncoated it is reported to be susceptible to absorbing mud. 90gsm available ex NZ from time to time.

Pretex 120 gsm **offset** stock (**50.120**), being coated both sides, is usable only on some late model, production quality digital presses. It is suited to major events where all aspects are more critical. **It is proving very acceptable to date.**

Clubs and major event organisers intending to use either of the Pretex stocks in 2010 or 2011 are most welcome to discuss with Jim or Ken with a view to cost effective buying of Pretex. Following our experience, NZ has just placed an order for 50.120.

Teslin vs Pretex

Both Teslin and Pretex seem to have found sound acceptance in Australia. Neither is perfect but they appear the best of the synthetics. Both can also be printed offset.

Given that Teslin is stated to be suitable for digital print, it is puzzling that a high degree of auto feed problems are reported. It does seem possible that might arise from inadequate handling and storage given the manufacturer's unusually extensive list of cautions on those aspects.

Teslin is subject to discolouration if exposed to pollutants while in storage so should be at least visually checked before use. Pretex uses no optical whiteners.

While neither synthetic is biodegradable, Pretex certainly wins on the environmental front in terms of its production and disposal characteristics mentioned above.

Most digital presses will handle the digital Pretex 30.120. Any city will now have some presses that suit the offset Pretex 50.120. See mapsport.net.au for a link to a list of Pretex proven digital presses.

The last word from Peta Whitford "Being waterproof, Pretex is so good for the schools' champs as with scarce resources we don't have to worry about plastic bagging. And I really like the feel which is so like paper".

Jim Russell: jymbo@dodo.com.au
Ken Dowling: ken@mapsport.net.au



Illustration 1: GW512 Orienteering wet weather simulator for testing maps on synthetic substrates