

Ply-thickness effect in translaminar fracture



@silvestrepinho



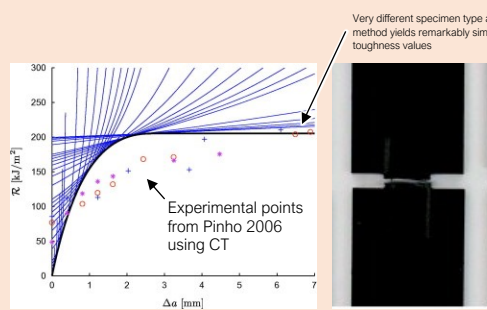
@silvestrepinho



silvestre.pinho@imperial.ac.uk



<https://pinholab.cc.ic.ac.uk>

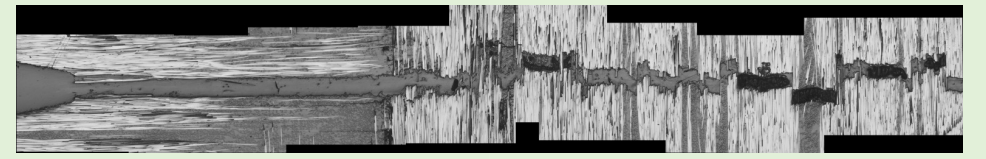


3. Is it a property of the ply?

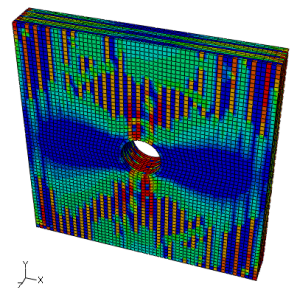
4. When is it useful for modelling?

Author	Material system	Maximum fibre bridging height (COD, mm)
Bergan, 2015	AS4/VRM-34 (cross-ply)	0.8951
Bergan, 2015	IM7/8552 (cross-ply)	1.2624
Teixeira, 2015	T800/M21 ([[(90/0)8/90]s])	1.0
Bergan, 2016	AS4-VRM-34	1.4-1.8

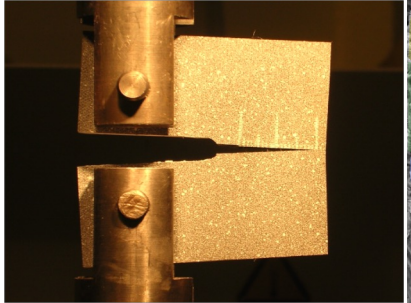
If a component fails catastrophically well before these CODs have occurred, then their failure may not be determined by translamellar toughness. Conversely, if these or larger CODs occur before final failure, then translamellar toughness is probably very important (this also provides insights on requirements for suitable specimens for measuring translamellar toughness).



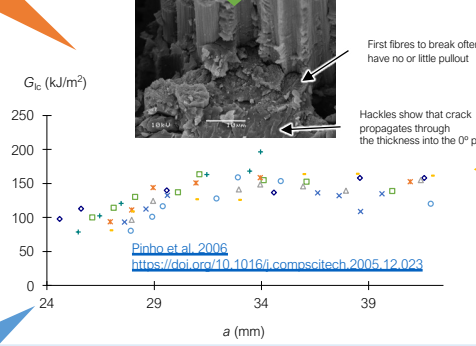
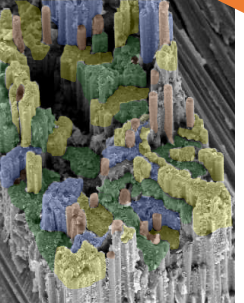
Catalanotti et al 2014
<https://doi.org/10.1016/j.engfracmech.2013.10.021>



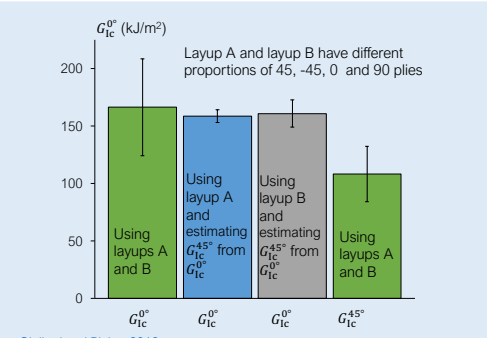
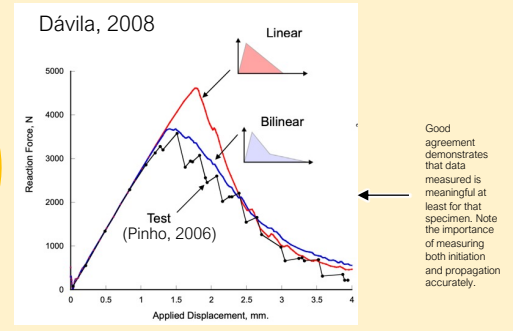
Pinho et al. 2006
<https://doi.org/10.1016/j.compositesa.2005.06.008>



Pinho et al. 2006
<https://doi.org/10.1016/j.compositescitech.2005.12.023>

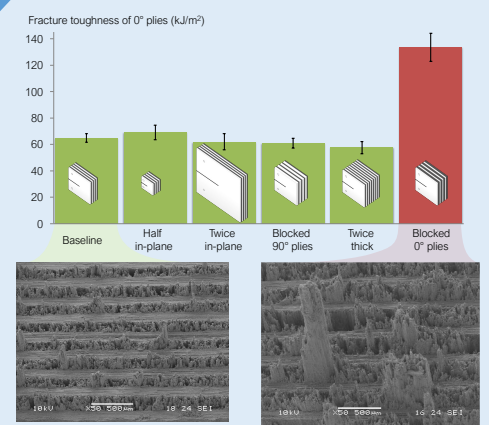


1. Is it a property of the ply for that specimen?

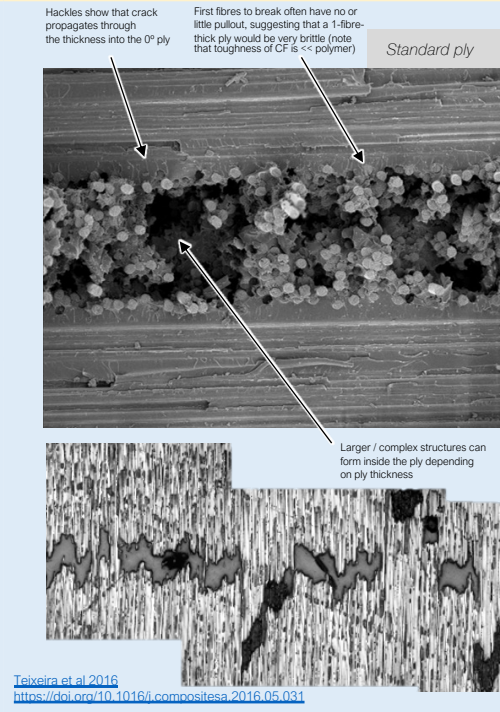
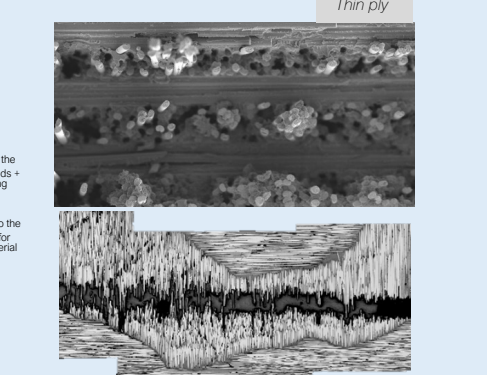
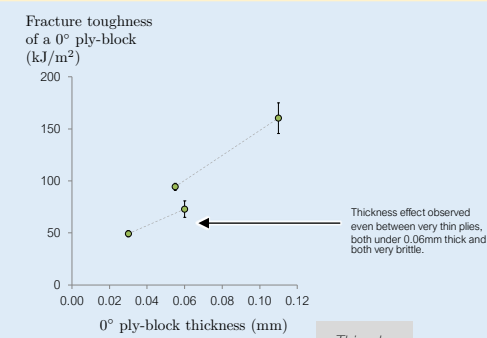


Giolitti and Pinho, 2016
<https://doi.org/10.1016/j.mates.2015.12.167>

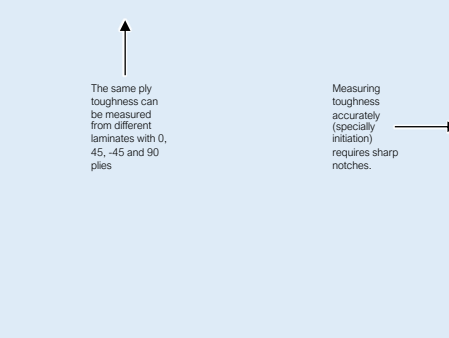
2. Is it a property of the ply for that specimen type (CT)?



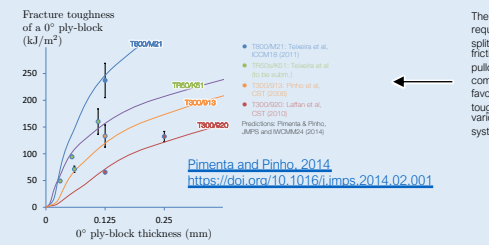
Laffan et al. 2010
<https://doi.org/10.1016/j.compositescitech.2009.12.011>



Teixeira et al 2016
<https://doi.org/10.1016/j.compositesa.2016.05.031>



Laffan et al. 2011
<https://doi.org/10.1016/j.compositescitech.2011.10.006>



Pimenta and Pinho, 2014
<https://doi.org/10.1016/j.lmps.2014.02.001>