

Shapes that stop paper bending

engineering

Words to use

Stiffness · Tube · Concertina fold · V-fold

Our question

Which shape makes the same paper strip resist flopping best: a deep V, a tube, or fan folds?

I predict...because...

Words to sort

poster tube · ridged card (ridges like fan folds) · drainpipe or kitchen-roll tube · ridged crisp packet or egg box · chair or table legs that are tubes · any tube or ridged shape spotted in the room or through the window

Sort real objects into tube shapes and ridged shapes on two labelled board headings

tube shapes	ridged shapes

Each shape we tested

Shape	Flopped or held?
Flat strip	
Deep V	
Tube	
Fan folds (ridges)	

Which shape resisted best, and one reason why?

What stayed the same in every test?

What does that tell us about shape and stiffness?