

ENVIRONMENTAL FOOTPRINT COMPARISON TOOL

A tool for understanding environmental decisions related to the pulp and paper industry



EFFECTS OF RECYCLED FIBER USE ON DISCHARGES TO WATER

Recycled Paperboard Sector

In many segments of the recycled paperboard sector, mills use little, if any, virgin fiber. Recycled fiber-related environmental footprint decisions exist, therefore, only in a few categories where the same general product type can be made using significant amounts of virgin fiber.

In general, mills producing paperboard only from recycled fiber discharge less biochemical oxygen demand (BOD) and total suspended solids (TSS), and especially COD (chemical oxygen demand) than those making competing products from virgin fiber (assuming that the virgin fiber is produced on site). This finding is confirmed by statistical analysis of NCASI site-specific BOD and TSS data.

The following table summarizes published data on the effluent BOD, TSS, and COD discharges from recycled paperboard mills, unbleached kraft (sulfate) mills, and bleached kraft (sulfate) mills. The information makes it clear that while there is significant variability, mills producing recycled paperboard tend to have lower effluent loads than those producing paperboard from virgin pulp.

Table R14.

Mill Description	Effluent BOD (kg/tonne)	Effluent COD (kg/tonne)	Effluent TSS (kg/tonne)	Reference
Unbleached kraft pulp mills using Best Available Techniques	0.2 to 0.7	5 to 10	0.3 to 1.0	EC BREF 2001
Recycled board mills using Best Available Techniques	<0.05 to 0.15	0.5 to 1.5	0.05 to 0.15	
Typical virgin unbleached kraft mills making coated unbleached paperboard	1.7	18.5	2.75	Paper Task Force 2002
Typical virgin bleached kraft mills making solid bleached sulfate paperboard	3.45	50	5.55	
Typical recycled paperboard mill	1.05	1.0	0.85	

References

European Commission BAT Reference (BREF). 2001. *Integrated Pollution Prevention and Control (IPPC) reference document on best available techniques in the pulp and paper industry*. Seville, Spain: European Commission Joint Research Centre. <http://eippcb.jrc.es/reference/pp.html>

Paper Task Force. 2002. *Paper Task Force recommendations for purchasing and using environmentally preferable paper*. <http://epa.gov/epawaste/conservation/tools/warm/pdfs/EnvironmentalDefenseFund.pdf>