

Green Number (1) of ZEO® PDQ on Trees Saving

Date: 8-24-2010

Customer: TGI (PDQs)

Top Cover	Surface Area (m2)	All Virgin paper (g/m2)			Virgin Paper Weight(g/pc) Normal Recipe	ZEO recycled*1 (g/m2)			Total Paper Weight (g/pc)	Virgin Paper Weight(g/pc)*2 ZEO Recipe	Virgin Paper Saved (g/pc)	Volume (pcs)	Trees Saved
		Outer liner	Corrugated	Inner liner		Outer liner	Corrugated	Inner liner					
PDQ-S	0.99	200	100	300	625.68	200	90+90	200	631.224	157.806	467.874	6500	51.70008
PDQ-L	1.13	200	100	300	714.16	200	90+90	200	720.488	180.122	534.038	17650	160.23810

Bottom Case	Surface Area (m2)	All Virgin paper (g/m2)			Virgin Paper Weight(g/pc) Normal Recipe	ZEO recycled*1 (g/m2)			Total Paper Weight (g/pc)	Virgin Paper Weight(g/pc)*2 ZEO Recipe	Virgin Paper Saved (g/pc)	Volume (pcs)	Trees Saved
		Outer liner	Corrugated	Inner liner		Outer liner	Corrugated	Inner liner					
PDQ-S	1.79	200	100	150	862.78	200	90+90	200	1141.304	285.326	577.454	6500	63.80867
PDQ-L	2.49	200	100	150	1200.18	200	90+90	200	1587.624	396.906	803.274	17650	241.02236

Partition	Surface Area (m2)	All Virgin paper (g/m2)			Virgin Paper Weight(g/pc) Normal Recipe	ZEO recycled*1 (g/m2)			Total Paper Weight (g/pc)	Virgin Paper Weight(g/pc)*2 ZEO Recipe	Virgin Paper Saved (g/pc)	Volume (pcs)	Trees Saved
		Outer liner	Corrugated	Inner liner		Outer liner	Corrugated	Inner liner					
PDQ-S	0.33	200	100	200	175.56	200	90+90	200	210.408	52.602	122.958	6500	13.58686
PDQ-L	0.43	200	100	200	228.76	200	90+90	200	274.168	68.542	160.218	17650	48.07341

*1: ZEO reinforced PDQs use recycled paper which constitutes 75% to 100% recycled paper pulp instead of virgin paper pulp.

*2: Here assumes 75% recycled content for easy calculation.

Total Trees Saved: 578.4295

Green Number (2) of ZEO® PDQ on Material and Energy Saving

* According to Sources of Environmental Defence Fund *

Paper Material Used (ton) - based on actual PO Volume

Top Cover	Original PDQ (All Virgin Paper)			ZEO PDQ (Recycled Paper *3)		
	Outer liner: SBS	Corrugated: Unbleached	Inner liner: Uncoated Unbleached Kraft	Outer liner: SBS	Corrugated: Unbleached	Inner liner: Uncoated Unbleached Kraft
PDQ-S	1.28700	0.84942	1.93050	1.28700	1.52896	1.28700
PDQ-L	3.98890	2.63267	5.98335	3.98890	4.73881	3.98890

Bottom Case	Original PDQ (All Virgin Paper)			ZEO PDQ (Recycled Paper * 3)		
	Outer liner: SBS	Corrugated: Unbleached	Inner liner: SBS	Outer liner: SBS	Corrugated: Unbleached	Inner liner: SBS
PDQ-S	2.32700	1.53582	1.74525	2.32700	2.76448	2.32700
PDQ-L	8.78970	5.80120	6.59228	8.78970	10.44216	8.78970

Partition	Original PDQ (All Virgin Paper)			ZEO PDQ (Recycled Paper * 3)		
	Outer liner: SBS	Corrugated: Unbleached	Inner liner: Uncoated Unbleached Kraft	Outer liner: SBS	Corrugated: Unbleached	Inner liner: Uncoated Unbleached Kraft
PDQ-S	0.42900	0.28314	0.42900	0.42900	0.50965	0.42900
PDQ-L	1.51790	1.00181	1.51790	1.51790	1.80327	1.51790

Summary of Paper Material Used for Green Number Calculation

	Paper type	Original PDQ	ZEO PDQ
PDQ-S	Solid Bleached Sulfate (SBS)	5.7883	6.3700
	Corrugated: Unbleached	2.6684	4.8031
	Uncoated Unbleached Kraft	2.3595	1.7160
PDQ-L	Solid Bleached Sulfate (SBS)	20.8888	23.0862
	Corrugated: Unbleached	9.4357	16.9842
	Uncoated Unbleached Kraft	7.5013	5.5068

*3: liner and corrugated: 75% recycled paper

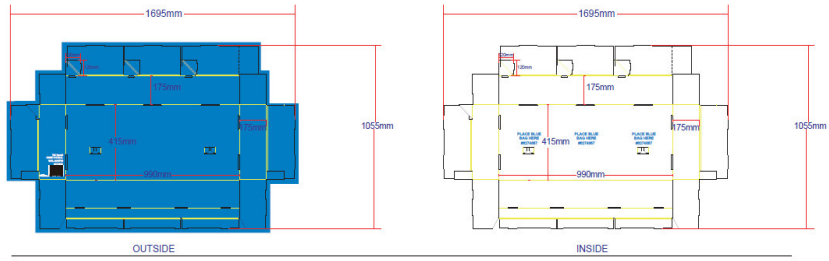
Green Number Details Summary

Group Details	Original PDQ-S		ZEO PDQ-S	
	Value	Less	Value	Less
Wood Use	40 tons		12 tons	28 tons less
Net Energy	324 million BTU's		284 million BTU's	40 million BTU's less
Greenhouse Gases	69,648 lbs CO ₂ equiv.		52,298 lbs CO ₂ equiv.	17,350 lbs CO ₂ equiv. less
Wastewater	192,083 gallons		86,646 gallons	105,437 gallons less
Solid Waste	20,403 pounds		14,059 pounds	6,344 pounds less

Group Details	Original PDQ-L		ZEO PDQ-L	
	Value	Less	Value	Less
Wood Use	140 tons		42 tons	98 tons less
Net Energy	1,135 million BTU's		1,005 million BTU's	131 million BTU's less
Greenhouse Gases	244,527 lbs CO ₂ equiv.		185,399 lbs CO ₂ equiv.	59,128 lbs CO ₂ equiv. less
Wastewater	679,378 gallons		309,120 gallons	370,258 gallons less
Solid Waste	71,882 pounds		50,151 pounds	21,730 pounds less



PDQ-S Layout



PDQ-L Layout

