

EXPLORATORY BACKINGS		
POLY ETHYLENE (crosslinked)	ETHYL VINYL ACETATE (EVA)	EVATPO (BLEND)
New	New	New
Good	Fair	Good
Exceptional	Exceptional	Exceptional
Good	Fair	Good
Glued	Glued	Glued
YES	NO	NO
YES	NO	NO
YES	NO	NO
POSSIBLE	YES	Yes
RC = 0% PC = 0%	RC = 100% PC = 0%	RC = 100% PC = 0%
RC = 0% PC = 0%	RC = 45 - 50% PC = 0%	RC = 45 - 50% PC = 0%
None	Possible	Possible
None	Available	Available
Possible	Possible	Possible
NO	Possible	Possible
Petroleum	Petroleum	Petroleum
Can't recycle, landfill, incinerate	Recycled, various market values	Recycled, various market values
Can't recycle, landfill, incinerate	Recycled, various market values	Recycled, various market values
Hydrogen, Carbon	Hydrogen, Oxygen Carbon	Hydrogen, Oxygen Carbon
Not Present	Not Present	Not Present
None	Petrochemicals	Petrochemicals
None	Significant	Significant
NO	Meets FTC Guides	Meets FTC Guides
< 6 Months	12 - 18 Months	12 - 18 Months

ethos[™]

floorcovering evolved

C&A introduces **ethos**, an evolutionary new floorcovering cushion backing system developed by Tandus Technologies.

ethos backing is made from a recycled, non-chlorinated, thermoplastic terpolymer that is safe and widely used as a film laminated in windshields and other types of safety glass. Until now, there was no commercially viable use for this film after its useful life.

- An alternative to polyolefin, urethane and EVA structured backings.
- **ethos** cushion backing is a minimum of 76% post consumer recycled content. C&A products with the **ethos** backing contain 30% to 52% overall recycled content with a minimum of 30% post consumer content.
- C&A products with **ethos** backing are 100% closed-loop recyclable today.
- **ethos** backing provides the excellent long-term performance expected from C&A products.
- Available today on every C&A six-foot broadloom style.

		COMMERCIAL BACKINGS				
		POLYVINYL BUTYRAL (pvb)	POLYVINYL CHLORIDE (pvc)	POLY OLEFIN (pe)	POLY URETHANE ¹	BITUMEN
PERFORMANCE	History	New	> 35 Years	New	< 30 Years	> 30 Years
	Durability	Exceptional	Exceptional	Good	Fair	Good
	Cleanability	Exceptional	Exceptional	Exceptional	Good	Good
	Repairability	Exceptional	Exceptional	Unknown	Poor	Replace Only
	Seams	Fused	Fused	Glued	Glued	n/a (tile only)
BACKING	Cushion	YES	YES	NO	YES	NO
	Closed Cell Cushion	YES	YES	NO	NO	NO
	Condensed Cushion	YES	YES	NO	NO	NO
	Tile	2004	YES	YES	YES	ONLY
RECYCLED CONTENT	Backing: Recycled Content (RC) & Post Consumer (PC)	RC = 76% PC = 76%	RC = 100% PC = 25%	RC = 60% PC = 0%	RC = 0% PC = 0%	NONE
	Total: Recycled Content (RC) & Post Consumer (PC)	RC = 30-52 % PC = 30% Min.	RC = 31 - 50% PC = 8% Min.	RC = Up to 40% PC = 0%	RC = 0% PC = 0%	RC = 0% PC = 0%
	Resource: Post Consumer	Windshields & safety glass	Vinyl backed carpet	None	None	None
	Resource: Post Industrial	Available	Carpet waste & Automotive waste	Flyash	None	None
	EPP	Expected	Yes	No	NO	NO
	SCS	Six Months	Current	None	None	NO
	Source	Petroleum	Petrol., 1/2 Salt	Petroleum	Petroleum	Petroleum
	Historic: Usage for scrap	Landfilled, no market value	Recycled, various market values	None for carpet	Landfill & Incinerator	Landfill & Incinerator
	Current: Usage for scrap	Recycled content backing	Recycled, various market values	None	Can't recycle, landfill, incinerate	Can't recycle, landfill, incinerate
	Elemental Components	Hydrogen, Carbon, Oxygen	Hydrogen, Carbon, Chlorine	Hydrogen, Carbon	Hydrogen, Oxygen, Carbon, Nitrogen	Hydrogen, Carbon
	Phthalates Plastisizers	Not present	Present	Not Present	Not Present	Not Present
	Virgin Material avoidance through use of recycled content	Petrochemicals	Petrochemicals and Salt	Limestone	None	None
	Environmental impact of virgin material avoidance	Significant	Significant	Negligible Environmental Impact	Negligible Environmental Impact	Negligible Environmental Impact
RECYCLING PROGRAM	FTC Guides	Will meet Guides	Meets FTC Guides	5 - 10 Year	NO	NO
	3rd Party Certification	< 6 Months	YES	None	None	None

¹ Note: Also evaluated as exploratory backing.

Polymer Matrix

Since the concept of ER3 in 1995 we have continued to explore the possibility to introduce a recycled content cushion for C&A products. Once ER3 was officially launched in 1998 we fully recognized the opportunity that a recycled content cushion would mean to our customers and the environment.

Exploratory Backings:

The exploratory backings we considered include:

- Cross-linked Polyethylene
- Ethyl-vinyl Acetate
- Ethyl-vinyl Acetate/Polypropylene blend

These product options demonstrated great opportunities in their own right, they did not fully meet our requirements and expectations.

Commercialized Backings:

Existing commercial backings were also given due diligence and include:

- Polyolefin
- Polyurethane
- Bitumen

None met our requirements.

ethos:

PVB was the only product option that satisfied the performance characteristics already proven by Powerbond and advanced our environmental initiatives with an untapped source of post-consumer recycled material.