Pulp corner protector

MOULDED EDGE AND CORNER GUARD · RIBBED · NESTABLE

CP-PLP-CNR 110 × 110 × 60 mm

PROJECT	CATALOG NO.	TYPE	DATE

PRODUCT DESCRIPTION

A wet-press moulded pulp guard that wraps one vertical corner of a carton. Two 110 mm legs meet at a true right angle across a 60 mm face, and ribbing along both legs carries the impact that would otherwise land on the corner itself. It replaces an expanded polystyrene corner block with no change to the pack method and no change to the strapping.

Forming

- Wet-press: formed against a tool and pressed dry in the same shape, not dry-pressed
- No binder, no coating, no release agent and no added colour anywhere in the process
- Formed as one piece — the right angle is moulded, not folded or glued
- Demoulded at 55% free moisture and dried to 8%, which is where it stays

The section

- Ribs at 22 mm pitch along both legs, running the full 110 mm of each
- Ribs stand 2.5 mm proud of the leg face — stiffness comes from the section, not the wall
- Internal radius 3 mm, so the guard bears on its two leg faces and never on the carton's corner edge
- Internal draft 2° per face: this is what lets four hundred nest and what lets them come apart again

Geometry

- Leg length 110 mm, both legs; leg face width 60 mm
- Wall thickness 4.0 mm nominal, held across the leg face and the return
- Internal angle 90° — the guard fits a square corner and cannot make one
- Nested column of four hundred stands to about a fifth of the same four hundred made up

Performance

- Compression 1.0 kN per corner before the rib section yields
- A yielded rib carries nothing afterwards; the guard is a single-impact part, not a spring
- Unit weight 34 g
- Service temperature 0 °C to 60 °C dry; the guard softens rather than fails when wet

Printing

- Not printed. Wet-press pulp takes ink unevenly and the guard is specified plain
- Identification is by an embossed tool mark in the outer face, moulded rather than applied
- Where a guard has to be found by colour on the line, dyed stock is a tooling decision
- Added colour is available at tooling only, at a 50,000 minimum

Tolerances

- Leg length ±2 mm — a moulded part shrinks as it dries and the shrink is not perfectly even
- Leg face width ±1.5 mm
- Wall thickness ±0.4 mm
- Internal angle ±1°

Applications

- Palletised freight, where the corner takes the handling and the contents do not
- Cartons stacked more than two high, top and bottom of every vertical corner
- Under strapping, where the band would otherwise cut into the carton edge
- Direct replacement for an expanded polystyrene corner block of the same leg length

Three-quarter

Side · Assembled

SPECIFY

It protects the carton, not the contents. Every other insert in this catalogue stands between the goods and something hard. This one stands between the carton and the forklift, the strap and the pallet next to it. It does nothing at all for what is inside the box; specify it alongside whatever is doing that job, not instead of it.

RIBBED SECTION | EPS REPLACEMENT | NESTABLE | UNCOATED

AT A GLANCE

Format	Moulded pulp guard
Legs	2, at 90°
Leg length	110 mm
Leg face width	60 mm
Wall	4.0 mm
Compression	1.0 kN per corner

See also. Every mark this family holds, what each one certifies and the recycled figure by weight are on the features and benefits sheet.

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BUILD THE CODE

SERIES	TOOL	STOCK	FINISH	PACK
CP-PLP	CNR Corner guard, 110 mm legs	N Recycled newsprint	P Plain, uncoated	400 Nested, 400 per carton
	T06 Tray, 6 cavity	—	E Embossed tool mark	PL Pallet, 24 cartons
	T12 Tray, 12 cavity		—	

Example

CP-PLP-CNR-N-P-400

Corner guard, recycled newsprint stock, plain uncoated finish, supplied nested four hundred to a carton.

- The code carries a tool, not a size. Unlike the board families, there are no four-digit footprints here — a moulded part is whatever its tool makes it, and the tool is the thing being ordered.
- There is one guard tool. A carton that needs a longer leg needs a second guard on the same corner, not a different part number.
- E is an embossing on the existing tool, not a print operation. It carries no set-up charge and no lead time; a change to what it says carries both.

SIZES, MINIMUM ORDER AND LISTINGS

CODE	INTERNAL SIZE, L × W × D	MINIMUM · LEAD	LISTINGS
CP-PLP-CNR	110 × 110 × 60 mm	2,000 · 10 days	

Minimum order and lead time are held against the tool in the catalogue record and are shown in the table above. Lead time runs from order receipt; there is no artwork stage on a plain guard.

ACCESSORIES, ORDERING

CODE	ITEM	MINIMUM	LEAD
CP-CTN-RSC1	Shipping carton, RSC	250	5 days
CP-VF-CR18	Crinkle void fill	4 cartons	2 days
CP-TP-G70	Water-activated paper tape	12 rolls	3 days

What each accessory is for, and how it goes in, is on the assembly instructions.

CUSTOM SIZES

Outside the one tool. A bespoke leg length or face width needs new forming tooling at a 50,000 minimum and a 10 week lead, of which 6 weeks is the tool. Before committing, try two standard guards run end to end up the same corner — a pair of 110 mm legs covers most of what a longer single guard was wanted for, and it comes out of stock.

ARTWORK AND PROOFING

	REQUIREMENT
Supply format	Not applicable — the guard is not printed
Embossing	Vector outline only, 1:1 scale, minimum stroke 1.5 mm. The emboss is cut into the tool and cannot be changed after it is cut
Emboss area	Outer leg face, 50 × 14 mm, between two ribs. There is nowhere else on the part flat enough
Minimum type	10 pt. Moulded type below that closes up as the part dries
Colour	None. Dyed stock is a tooling-stage decision and is quoted against the run, not against the artwork
Branding route	None on the guard. It is a transit part and the customer is not meant to see it
Proof round	One moulded sample from the cut tool, before the run. There is no proof stage after that

There is no artwork approval on a plain guard, so the lead time in the table above runs from order receipt. An embossed tool adds nothing to a repeat order and six weeks to a new one.

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MECHANICAL PERFORMANCE

	CP-PLP-CNR
Form	Moulded pulp guard
Leg length	110 mm
Leg face width	60 mm
Wall thickness	4.0 mm
Internal angle	90°
Compression, per corner	1.0 kN
Unit weight	34 g
Standard specification	4 per carton
Stacked more than two high	8 per carton
Pack quantity	400 nested per carton
Compostable	Industrial, 180 days

TEST CONDITIONS

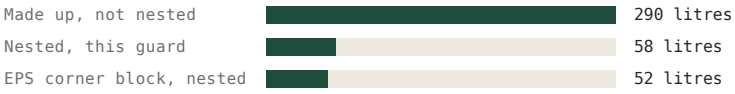
- Compression is measured per corner and is not additive across a carton. Four guards at a kilonewton each makes four defended corners, not a four kilonewton carton.
- The guard is a single-impact part. Once the rib section has yielded it carries nothing and looks no different from the outside, which is why the fitting sheet asks for the rib.
- Every figure on this sheet is inferred from the nearest ratified family member. Nothing here has been through a test house.

SERVICE AND STORAGE

Service temperature	0 °C to 60 °C, dry
Storage humidity	40 – 60 % RH
Wet strength	None – it softens, not fails
Shelf life, nested	Indefinite, dry

RELATIVE CAPACITY

Transit volume, four hundred guards



PULP SPECIFICATION

Material	Recycled wet-press pulp
Compression, per corner	1.0 kN
Standard specification	4 per carton
Compostable	Industrial, 180 days

HOW MANY GUARDS, AND WHERE

PACK	SPECIFY	WHY
Palletised, one or two high	4 × CP-PLP-CNR	One to each vertical corner. That is where a pallet gets handled and where a carton gets crushed
Stacked more than two high	8 × CP-PLP-CNR	Top and bottom of every vertical corner. The bottom of the stack is carrying everything above it
Not palletised, single carton	No guard	A parcel that travels on a conveyor is not handled on its corners, and a guard on it is cost with nothing behind it
The load, not the carton	Not this family	Specify CP-DIV divider inserts or CP-VF-CR18 void fill. The guard does nothing at all for what is inside

Count corners, not cartons: the specification is per vertical corner exposed to handling.

TEST METHODS

FIGURE	METHOD	CONDITIONING
Compression, per corner	Guard seated on a square steel corner and loaded on the top edge of both legs at once, increased until the rib section yields	23 °C / 50 % RH, 24 h
Internal angle	Optical comparator against a square master, measured at three heights up the internal corner, ten guards	23 °C / 50 % RH, 24 h
Wall thickness	Micrometer at nine points: three on each leg face, three on the return, three between ribs	23 °C / 50 % RH, 24 h
Destack force	Vertical separation of the top guard from a nested column of twenty, measured on the leg ends, five columns	23 °C / 50 % RH, 24 h

These figures are inferred from the nearest ratified family member rather than measured on this product. Methods are given so they can be reproduced once the guard is put through them.

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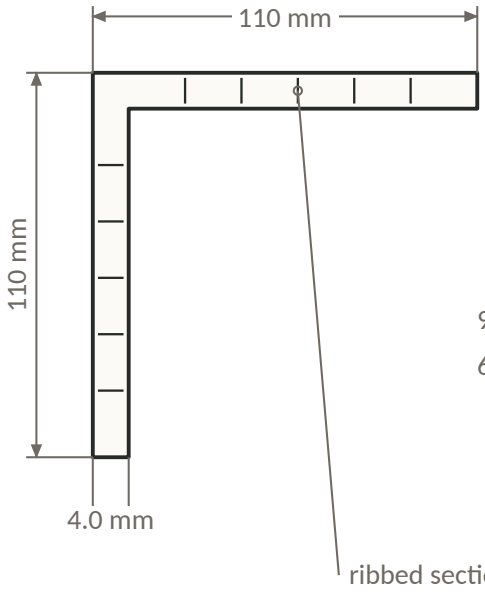
LEGS AND SECTION

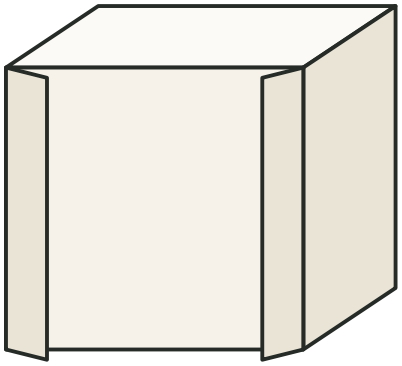
SECTION, 90°



90° internal

60 mm face width

IN USE



four per carton, standard

Every dimension on this sheet is in millimetres. A moulded guard has no internal and external pair the way a box does: the wall is 4.0 mm and the leg figures are taken on the outside face. The internal radius is the figure that decides whether it seats, and it is given here and nowhere else in this pack.

MEASUREMENTS

Leg length	110 mm
Leg width	60 mm
Wall thickness	4.0 mm
Internal angle	90°
Internal radius	3 mm
Unit weight	34 g

MOULDED GUARD

Leg length, both legs	110 mm
Leg face width	60 mm
Wall thickness	4.0 mm
Internal angle	90°
Internal radius	3 mm
Rib pitch	22 mm
Rib height, proud of the face	2.5 mm
Emboss area, outer face	50 × 14 mm

PALLETISATION

Pallet	1200 × 1000 mm
Guards per carton	400, nested
Cartons per pallet	24
Pallet height, wrapped	1,180 mm

Three-quarter

Side

Assembled