DOC-CS-200 Rev C · Provisional patent filed · Confidential

CAD Documentation

Chip Sleeve / Chip Can Insert · DOC-CS-200 Rev C · Model release notes and file manifest

1. Model definition

The model is fully parametric and driven from the canister inside diameter. Changing *can_id* regenerates a valid part for any stacked-chip format; every other dimension is derived.

Variable	Value	Meaning
can_id	73.7	Canister inside diameter (mm)
clearance	0.40	Radial running clearance per side (mm)
wall	0.50	Wall thickness; 0.65 mm for paperboard
arc_deg	180	True half-cylinder
trough_len	229.7	Closed lower end to rim (mm)
r_out	36.45	Derived: can_id/2 – clearance (mm)

*Part mass target: ~6 g in food-grade PP/PET and ~3 g in barrier-coated paperboard. Mass values are targets, not certified specifications, and must be validated by the licensee against material and line data.

2. Construction

— The curved wall is a 180° extruded shell, swept the full trough length.
— The lower end is closed by an integral half-disc at wall thickness, acting as a stop for the chip column.
— The upper end is open; the stack is loaded and unloaded through it.
— The side opening spans the full height of the part — chips bear on both sides of the curved wall.
— There is no grip tab. The open upper end is a plain edge; the sleeve protrudes past the canister rim so it can be pinched directly.

3. File manifest

File	Format	Use

chip_sleeve.scad	OpenSCAD source	Parametric master; edit to retarget a format
chip_sleeve_profile_180deg.dxf	DXF 2D	180° cross-section profile for tooling / die layout
chip_sleeve_180deg.stl	STL mesh	3D print, mock-up and FEA import
chip_sleeve_dimensions.csv	CSV	Full dimension schedule and format variants
Chip_Sleeve_Technical_Drawing.png	Drawing	DWG-CS-001 Rev B dimensioned drawing

4. Line integration note

The CAD model and file manifest are geometry-neutral. They do not prescribe a specific filler integration. A proposed co-insertion concept is described in DOC-CS-400 Rev B, but machine timing, tooling, and throughput are engineering hypotheses that must be validated with the OEM line engineer.

5. Revision history

Rev	Change
A	Initial release — 210° cradle geometry
B	Corrected to 180° true half-cylinder per provisional filing; dimensions retargeted to the 5.5 oz canister (73.7
C	Added mass target note (3–6 g) and clarified that line integration is a proposed concept requiring OEM vali

6. Tolerancing notes

The controlling fit is the diametral sliding clearance, nominal 0.80 mm with a permissible range of 0.64–0.96 mm across the tolerance stack of can I.D. and sleeve O.D. Below 0.64 mm the sleeve risks binding on an out-of-round tube; above 0.96 mm it rattles in transit. Straight edges of the half-cylinder should carry a 0.3 mm radius or a rolled lip to avoid scoring chips during withdrawal.