

Press-brake test dies in ASA

3DP-037 / REV A / 2026.09.01

ASA can be evaluated as an economical printed tooling material, particularly for supported prototype contact shapes. Outdoor weather resistance does not predict press-brake strength.

STATUS	Recovered/Partial
CLASSIFICATION	3DP
MATERIAL	3D PRINT / MAKER
DISPOSITION	PUBLIC / RECOVERED/PARTIAL
CATEGORY	3D Printing
RECORD TYPE	project

GOAL

Run the first test described in this guide and record the result for press-brake test dies in asa.

SOURCE STATE

New reference guidance; not a recovered test result

EQUIPMENT

- FDM printer / slicer
- Slicer project
- Calipers or inspection method

MATERIALS

- ASA

METHOD / STEPS

1. Document the sheet, bend geometry and expected force before designing the insert.
2. Use 3DP-032 to establish a well-bonded ASA print. Print a coupon in the same orientation as the proposed tool, then inspect for warping and internal gaps.
3. Provide stable backing and restraint based on a tooling review. Remove support scars from working faces without changing the intended radius.

4. Use the approved guarded trial procedure and measure the die profile after every initial trial. Keep an unchanged reference coupon for comparison.

THINGS TO WATCH FOR

Warm printing conditions help bonding but do not remove print-direction weakness. Brims hide neither a warped base nor layer splitting. Do not reuse visibly whitened, cracked or permanently compressed tooling.

FIRST TEST / WHAT TO RECORD

The article's output is a repeatable test record, not an assertion that ASA can bend a particular gauge.

RESULT / WHERE THIS STANDS

The article's output is a repeatable test record, not an assertion that ASA can bend a particular gauge.

TROUBLESHOOTING

- Warm printing conditions help bonding but do not remove print-direction weakness. Brims hide neither a warped base nor layer splitting. Do not reuse visibly whitened, cracked or permanently compressed tooling.

SAFETY / LIMITATIONS

- Use qualified judgment and current manufacturer or code guidance for safety-critical work.

SPECIFICATION

PRINTER	FDM printer / slicer
MATERIAL	ASA
FOCUS	Tooling contact, wear, load direction, and sheet gauge
VALIDATION	Small test print before release

DEVELOPMENT HISTORY

2026.09.01 / Rev A

Imported as an independent manifest record; public copy keeps uncertainty visible.

REFERENCE NOTES

Formlabs rapid-tooling research (not a rating for these FDM dies)
(<https://formlabs.com/global/white-papers/how-to-do-rapid-tooling-for-sheet-metal-forming-with-3d-printed/>), Official help.prusa3d.com reference (https://help.prusa3d.com/article/asa_1809).

HOW-TO SOURCES

Formlabs rapid-tooling research (not a rating for these FDM dies)

<https://formlabs.com/global/white-papers/how-to-do-rapid-tooling-for-sheet-metal-forming-with-3d-printed/>

Official help.prusa3d.com reference

https://help.prusa3d.com/article/asa_1809

RELEASED MATERIAL / SOURCE LINKS

3dp-037-public-summary.txt

PUBLIC SUMMARY / RECOVERED NOTES

<https://u225x.com/downloads/manifest-records/3dp-037-public-summary.txt>

RETURN TO THE LIVING RECORD

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This PDF preserves the public notes at this revision. Visit the record for updates and attached images.

<https://u225x.com/record/3DP-037>