

Torch Fusion of Thermoplastics – References

The following references demonstrate that the Fusible-Link Method is grounded in recognized science, industry standards, and manufacturer guidelines for plastic welding and heat-based reshaping.

TWI – Hot Gas Welding Basics

Explains how hot-gas welding works, emphasizing temperature, pressure, speed, and tool position.

<https://www.twi-global.com/technical-knowledge/job-knowledge/hot-gas-welding-of-plastics-part-1-the-basics-056>

Machine Design – Welding Options for Molded Parts

Notes hot-air/hot-gas welding is common and nitrogen may replace air to reduce oxidation.

<https://www.machinedesign.com/technologies/materials/article/21825763/welding-options-for-molded-parts>

ASSEMBLY Magazine – Hot-Gas Welding of Plastic Parts

Industry article confirming nitrogen avoids oxidation, while hot air can still be used with care.

<https://www.assemblymag.com/articles/95430-hot-gas-welding-of-plastic-parts>

DVS 2207-3 Standard (Germany)

Formal code covering 'hot-gas welding with torch separate from filler rod' and publishing parameter ranges.

<https://www.dvs-regelwerk.de/>

AWS B2.4:2023 – Thermoplastics Welding Qualification

American Welding Society specification covering welding procedures and operator qualification for hot-gas and other thermoplastic processes.

<https://pubs.aws.org/>

Plaskolite TUFFAK® Fabrication Guide

Covers annealing/stress relief for polycarbonate, showing how heat resets 'memory.'

<https://plaskolite.com/>

ACRYLITE® Annealing Guide

Explains annealing acrylic at ~80 °C and slow cooling to relieve stress.

<https://www.acrylite.co/>

SABIC LEXAN™ Sheet Processing Guide

Details thermal conditioning and forming for polycarbonate.

<https://ff.sabic.eu/>

S-Polytec – Thermoforming Polypropylene

Lists forming temperature ranges (~190–220 °C) for polypropylene.

<https://www.s-polytec.com/>