

Welding

EMS-Chemie: **Grilamid TR55** (features: transparent); **Grilamid TR55FC** (features: high impact, transparent, chemical resistance); **Grilamid TR55LX** (features: high impact, UV stabilized, transparent); **Grilamid TR55LY** (features: high impact, UV stabilized, transparent); **Grilamid TR55UV** (features: UV stabilized, transparent)

Ultrasonic welding, vibration welding and thermal impulse welding are all suitable for joining Grilamid TR55, TR55UV, TR55LX, TR55LY and TR55FC parts. When welding, the surfaces to be joined need only be melted and rapidly pressed together. Standard welding machines are used for ultrasonic welding. The horn design should be according to the established recommendations. Injection molded parts of Grilamid TR55, TR55UV, TR55LX, TR55LY and TR55FC can be welded by high frequency as well as low frequency. It is also possible to insert metal parts ultrasonically. Parts which are not being welded within a few hours of molding should be stored in moisture proof packaging to insure adhesion when assembled later.

Reference: *Grilamid TR55 Transparent Nylons*, supplier design guide (GR1-104) - EMS-Chemie.

Adhesive and Solvent Bonding

EMS-Chemie: **Grilamid TR55** (features: transparent); **Grilamid TR55LX** (features: high impact, UV stabilized, transparent); **Grilamid TR55LY** (features: high impact, UV stabilized, transparent); **Grilamid TR55UV** (features: UV stabilized, transparent)

An adhesive joint of Grilamid TR55 to Grilamid TR55 (or TR55UV to TR55 UV) can be attained by the use of the following solvent adhesives: formic acid, resorcinol, cresol, isopropanol, butanol and resorcinol - ethanol solution (2:3 mix). Cyanoacrylate and epoxy adhesives may also be used. Grilamid TR55LX and TR 55LY can be bonded only under certain conditions. Cyanoacrylate adhesives can be used for simple joints where high strength is not essential.

Reference: *Grilamid TR55 Transparent Nylons*, supplier design guide (GR1-104) - EMS-Chemie.