

PLASTIC FINISHES & TEXTURES

SYNOPSIS

- The terms “finish” and “texture” often are used interchangeably to refer to the visual and tactile conditions and characteristics of the surface of an object.
- In the context of plastic injection molding, the surface finish of a part is a reference to its topography or the three-dimensional quality of the part’s surface.
- The surface finish of a plastic part can be either polished (non-cosmetic to high gloss) or textured. In other words, texture is a subset or type of surface finish.
- Texture is characterized by three qualities: Lay (the general direction of the surface pattern), Roughness (the average of vertical deviations), and Waviness (surface irregularities).
- The surface finish of a plastic injection molded part is a result of the surface finish of the cavity and core in the mold producing the part.
- Some plastics work better for certain surface finishes than others, particularly those parts needing higher gloss.
- Usually, the injection molded finishes or polishes are referenced using standards established by SPI (now the Plastics Industry Association), which includes four general categories.
- The textures used for injection molded parts manufactured in the United States often are those created by Mold-Tech®, the most common of which are listed below.

POLISHES

FINISH	SPI STANDARD	FINISHING METHOD	ROUGHNESS AVERAGE Ra (um)	FINISH	SPI STANDARD	FINISHING METHOD	ROUGHNESS AVERAGE Ra (um)
Super High Glossy	A-1	Grade #3, 6000 Grit Diamond Buff	0.012 to 0.025	Fine Matte	C-1	600 Grit Stone	0.35 to 0.40
High Glossy	A-2	Grade #6, 3000 Grit Diamond Buff	0.025 to 0.05	Medium Matte	C-2	400 Grit Stone	0.45 to 0.55
Normal Glossy	A-3	Grade #15, 1200 Grit Diamond Buff	0.05 to 0.10	Normal Matte	C-3	320 Grit Stone	0.63 to 0.70
Fine Semi-glossy	B-1	600 Grit Paper	0.05 to 0.10	Satin Textured	D-1	Dry Blast Glass Bead #11	0.80 to 1.00
Medium Semi-glossy	B-2	400 Grit Paper	0.10 to 0.15	Dull Textured Finish	D-2	240 Aluminum Oxide Sandblasting	-
Normal Semi-glossy	B-3	320 Grit Paper	0.28 to 0.32	Rough Textured Finish	D-3	#24 Aluminum Oxide Sandblasting	-

TEXTURES

NAME	DEPTH	MIN. DRAFT REQUIRED	NAME	DEPTH	MIN. DRAFT REQUIRED	NAME	DEPTH	MIN. DRAFT REQUIRED
MT-11000	.0004"	1°	MT-11225	.0045"	6.5°	MT-11355	.0025"	4°
MT-11010	.0001"	1.5°	MT-11230	.0025"	4°	MT-11360	.0035"	5.5°
MT-11020	.0015"	2.5°	MT-11235	.004"	6°	MT-11365	.0045"	7°
MT-11030	.002"	3°	MT-11240	.0015"	2.5°	MT-11370	.004"	6°
MT-11040	.003"	4.5°	MT-11245	.002"	3°	MT-11375	.004"	6°
MT-11050	.0045"	6.5°	MT-11250	.0025"	4°	MT-11380	.004"	6°
MT-11060	.003"	4.5°	MT-11255	.002"	3°	MT-11400	.002"	3°
MT-11070	.003"	4.5°	MT-11260	.004"	6°	MT-11405	.0025"	4°
MT-11080	.002"	3°	MT-11265	.005"	7°	MT-11410	.0035"	5.5°
MT-11090	.0035"	5.5°	MT-11270	.004"	6°	MT-11415	.002"	3°
MT-11100	.006"	9°	MT-11275	.0035"	5°	MT-11420	.0025"	4°
MT-11110	.0025"	4°	MT-11280	.0055"	8°	MT-11425	.0035"	5.5°
MT-11120	.002"	3°	MT-11300	.0025"	3.5°	MT-11430	.007"	10°
MT-11130	.0025"	4°	MT-11305	.005"	7.5°	MT-11435	.010"	15°
MT-11140	.0025"	4°	MT-11310	.005"	7.5°	MT-11440	.0005"	1.5°
MT-11150	.00275"	4°	MT-11315	.001"	5°	MT-11445	.0015"	2.5°
MT-11155	0.0035	6°	MT-11320	.0025"	4°	MT-11450	.0025"	4°
MT-11160	.004"	6°	MT-11325	.003"	4.5°	MT-11455	.003"	4.5°
MT-11200	.003"	4.5°	MT-11330	.002"	3°	MT-11460	.0035"	5.5°
MT-11205	.0025"	4°	MT-11335	.002"	3°	MT-11465	.005"	7.5°
MT-11210	.0035"	5.5°	MT-11340	.003"	4.5°	MT-11470	.002"	3°
MT-11215	.0045"	6.5°	MT-11345	.003"	4.5°	MT-11475	.002"	3°
MT-11220	.005"	7.5°	MT-11350	.0035"	5.5°	MT-11480	.003"	4.5°

909-981-9662 | ask@pmp.bz | PrecisionMoldedPlastics.com

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