

FUNDAMENTAL MANUFACTURING PROCESSES

Plastics Finishing

SCENE 1.

CG: Review

white text centered on black

tape 652, 01:18:38-01:21:17

peter carey narration,

review segment

tape 63, 12:00:15-12:03:49

review music

SCENE 2.

tape 421, 15:20:04-15:20:10

part coming out of injection mold

tape 403, 01:46:21-01:46:25

parts being blow molded

tape 630, 08:07:53-08:07:58

parts being thermoformed

tape 421, 15:04:02-15:04:10

zoom out, part coming out of injection mold

NARRATION (VO) :

THE MOLDING OF PLASTICS IS A COMMON METHOD OF MANUFACTURING PARTS, AND ENCOMPASSES A VARIETY OF PROCESSES, WITH THE PRINCIPAL TYPE BEING PLASTIC INJECTION MOLDING.

SCENE 3.

tape 415, 10:25:49-10:26:02

mold opening and plastic part falling out

tape 626, 06:10:12-06:10:24

parts being ultrasonically assembled

tape 641, 19:08:09-19:08:16

zoom in, part being deflashed

tape 628, 07:26:28-07:26:34

part being blasted

tape 626, 06:07:06-06:07:10

part being degated

tape 621, 15:05:21-15:05:28

parts being decorated, painted

tape 625, 05:14:16-05:14:19

part being degated

CG, SUPER: Degating

tape 625, 05:15:23-05:15:30

part being deflashed

CG, SUPER: Deflashing

tape 621, 15:02:17-15:02:23

parts being cleaned

CG, SUPER: Cleaning

tape 639, 16:04:06-16:04:13

part being decorated, silk screened

CG, SUPER: Decorating

NARRATION (VO) :

ONCE PARTS ARE INJECTION MOLDED, MOST REQUIRE ADDITIONAL ASSEMBLY AND OR FINISHING OPERATIONS. MANY FINISHING PROCESSES ARE PERFORMED FOR AESTHETIC, OR APPEARANCE, PURPOSES. THESE FINISHING PROCESSES INCLUDE:
DEGATING...,
DEFLASHING...,
CLEANING...,
AND DECORATING.

SCENE 4.

CG, SUPER: Degating

tape 400, 05:09:49-05:10:01

part being degated

NARRATION (VO) :

DEGATING IS THE PROCESS OF REMOVING THE MOLDED PART FROM THE GATE AND RUNNER SYSTEM.

SCENE 5.

tape 399, 03:11:45-03:11:56

parts separated from by-products
part degated by manually

tape 625, 05:20:48-05:20:58

zoom out, snapping part from the
gate and runner system

tape 625, 05:14:55-05:15:03

part degated using side-cutter
hand tool

tape 625, 05:19:11-05:19:24

trimming fixture used to degate
parts

tape 424, 18:01:30-18:01:43

zoom out, cold-runner three
plate mold ejecting part and
runner system

NARRATION (VO) :

DEGATING CAN BE ACCOMPLISHED USING A VARIETY OF METHODS, INCLUDING:

MANUALLY 'SNAPPING' THE PART FROM THE GATE TO

REMOVE THE RUNNER SYSTEM...,

USING HAND TOOLS, SUCH AS THE SIDE-CUTTER FOR SEPARATION...,

USING DEDICATED TRIMMING FIXTURES FOR PARTS OR A FAMILY OF PARTS...,

OR USING AUTOMATED TOOLING DEVICES, SUCH AS THE COLD-RUNNER THREE-PLATE MOLD.

SCENE 6.

CG, SUPER: Deflashing

tape 641, 19:09:55-19:10:26

trimming of flash

CG, SUPER: Cutting & Trimming

tape 628, 07:10:35-07:10:50

zoom out, media blasting
operation

CG, SUPER: Media Blasting

tape 622, 01:05:24-01:05:34

zoom out, parts unloaded from
cryogenic deflashing operation

CG, SUPER: Cryogenic Deflashing

NARRATION (VO) :

DEFLASHING IS THE REMOVAL OF THE EXCESS PLASTIC THAT LEAKS BETWEEN MOLD HALVES DURING INJECTION MOLDING. DEFLASHING PROCESSES INCLUDE:

CUTTING AND TRIMMING...,

MEDIA BLASTING...,

AND CRYOGENIC DEFLASHING.

SCENE 7.

CG, SUPER: Cleaning

tape 640, 18:06:35-18:07:02

zoom out, parts being sprayed
after molding

tape 640, 18:14:48-18:15:06

plastic parts being painted

tape 635, 15:24:25-15:24:32

plastic part being plated

NARRATION (VO) :

CLEANING IS PERFORMED TO REMOVE MOLDING PROCESS CONTAMINANTS THAT MAY INTERFERE WITH THE BONDING ACTION OF POST-MOLDING DECORATION OR SURFACE TREATMENT PROCESSES.

SCENE 8.

tape 624, 04:01:46-04:01:52

NARRATION (VO) :

pan, vacuum metallized parts
tape 400, 06:07:34-06:07:42
colored plastic part being
processed
CG, SUPER: Molded-In Decorations
tape 631, 10:25:34-10:25:40
plastic part being painted
CG, SUPER: Applied Decorations

THE METHODS OF DECORATING MOLDED PARTS INCLUDE:

'MOLDED-IN' DECORATIONS...,

AND 'APPLIED' DECORATIONS.

SCENE 9.
CG, SUPER: Molded-In Decorations
tape 400, 06:09:47-06:09:52
mold opening ejecting part
tape 416, 13:11:52-13:11:57
pan, textured part
tape 398, 02:03:45-02:03:53
two-shot molding operation,
parts pulled from mold, inserts
placed in
tape 421, 15:07:25-15:07:31
colored plastic part ejected
from mold

NARRATION (VO) :

'MOLDED-IN' DECORATIONS ARE THOSE MACHINED INTO

THE MOLD, SUCH AS TEXTURES...,

OR BY IMPLANT, AS WITH TWO-SHOT MOLDING.

EVEN PRE-COLORED PLASTIC RESINS ARE CONSIDERED

'MOLDED-IN' COLOR.

SCENE 10.
CG, SUPER: Applied Decorations
tape 623, 03:13:38-03:13:56
plastic parts after being vacuum
metallized
tape 632, 11:07:29-11:07:34
plastic parts being painted
CG, SUPER: Painting
tape 635, 15:09:18-15:09:22
plastic parts being plated
CG, SUPER: Plating
tape 624, 04:19:07-04:19:20
plastic parts after being vacuum
metallized
CG, SUPER: Vacuum Metallizing
tape 630, 09:13:30-09:13:36
plastic parts being pad printed
CG, SUPER: Pad Printing
tape 640, 17:02:48-17:02:53
plastic parts being hot stamped
CG, SUPER: Hot Stamping
tape 639, 16:21:53-16:21:57
plastic part being silk
screened
CG, SUPER: Silk Screening
tape 632, 11:03:19-11:03:27
parts being filled and wiped
CG, SUPER: Fill & Wipe

NARRATION (VO) :

'APPLIED' DECORATIONS ARE ADDED TO THE PLASTIC

PART AFTER MOLDING. THE MOST COMMON TYPES OF

APPLIED DECORATIONS INCLUDE:

PAINTING...,

PLATING...,

VACUUM METALLIZING...,

PAD PRINTING...,

HOT STAMPING...,

SILK SCREENING...,

FILL-AND-WIPE,

AND OTHERS.

--- FADE TO BLACK ---