

Feedstock – Plastics

The acceptable materials detailed below are typically found in single stream and mixed plastic feedstocks. If the proposed feedstock is likely to contain any other materials these can be discussed on a case by case basis to assess suitability with TDR staff.

		Target Parameters	Tolerances
Acceptable Feedstocks	Plastics with recycling numbers 1 – 2 and 4 - 7 A fuller list of acceptable plastics is appended	The feedstock may contain any of these materials in any percentage order. The materials should be clean and as free of other foreign matter as possible within the limits set out below in the ‘undesirable’ section.	Minimum of 98% of material (by dry matter) must be hydrocarbon based
		The material should be shredded to the following target parameters: 0 to 10mm – 10% <25mm - 100%	25mm maximum shred size 3cm ³ maximum cube size
		The material should be as dry as possible, target moisture level 0%	Maximum 2% moisture. The cracker will cope with greater moisture % but performance will be greatly reduced
Undesirable Feedstocks	P.V.C. and other chlorine containing plastics	Ideally all chlorinated plastics should be excluded i.e. Target = 0 %.	1% inclusion limit should be acceptable up to a maximum of 7kg per hour total of all chlorinated plastics Excess chlorinated plastic inclusion will cause generation of chlorine which reduces the life of the plant and leads to increased maintenance.
	Non Hydrocarbon Materials with an MoH > 4 (i.e. hard materials) – such as stones, glass, metals, ceramics, grit	100% of these materials should be removed , as they will damage the cracking machine leading to reduction in machine performance and an increase in maintenance costs	1% material allowed within the following parameters : < 1mm diameter – 100%
	Non Hydrocarbon Materials with an MoH < 4 (i.e. soft materials) - such as talcum	100% of these materials should be removed , as they will eventually damage the cracking machine	2% material allowed within the following parameters : < 1mm diameter – 50%

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	powder, aluminium foil etc..	leading to reduction in machine performance and an increase in maintenance costs	1 – 2mm diameter – 50% >2mm diameter – 0% Please note that this tolerance is not in addition to the % allowable hard materials. Therefore if you have 1% hard material only 1% soft material is allowed. The maximum non-hydrocarbon content is 2%
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Appendix

LIST OF PLASTICS THAT CAN BE USED IN THE CRACKING PROCESS

	Permitted	Maximum Percentage%
LDPE Low Density Polyethylene e.g. garbage bags, packaging film, shopping bag etc.	Yes	100
HDPE High Density Polyethylene e.g. household container, safety cap, industrial packaging film etc.	Yes	100
CA Celluloze Acetate e.g. glasses frames, sign boards, transparent glass etc.	Yes	10
CPE Chlorinated Polyethylene e.g. frozen food packaging, cable insulation, conveying belt etc.	Limited	1
EVA Ethylene-vinyl Acetate e.g. shoe sole, shrinking film, paper coating etc.	YES	15
EEA Ethylene-Ethylacrylate e.g. chemical pipes, surgical bags, surgical gloves etc.	YES	30
EEAA (EMA) Ethylene-Methylacrylic Acid e.g. mucilage for glass/metal/plastic, safety glass etc.	YES (with no glass)	20/30
PP Polypropylene e.g. battery box, auto parts, medical equipment, fuse box etc.	Yes	100
PA-6 Polyamide 6 e.g. bearing, gear wheel, screws, textile etc.	Yes	30/40
PA-66 Polyamide 66 e.g. gadgets for mechanical, auto, chemical, electrical parts etc.	Yes	20/30
POM polyoxymethylene e.g. lighters, zip, bearing, gear wheel etc.	Yes	30
GPSS General Purpose Polystyrene e.g. lampshades, optical equipment, electrical appliance parts etc.	Yes	60/80
HIPS High Impact Polystyrene e.g. phone case, radio case, electrical appliance parts etc.	Yes	60
EPS Expandable Polystyrene e.g. thermal box, protective packaging etc.	Yes	60
SAN Styrene-Acrylo-Nitrile e.g. lighters, Transparent glass, transparent tableware, optical lens etc.	Yes	40/50
ABS Acrylonitrile-butadiene-styrene e.g. handles, TV case, electric-plated plastic products etc.	Yes	60
MBS Methylmethacrylate-butadiene-styrene e.g. transparent pipe, equipment cover etc.	Yes	80
SB Styrene-butadiene e.g. paper coating, fabric coating, metal coating etc.	Yes	60/80
PMMA Polymethyl Methacrylate e.g. windshield, optical lens, sign board etc.	Yes	30/40
PC Polycarbonate e.g. mechanical parts, compact disc sound proof insulator etc.	Yes	40
PVC Polyvinyl Chloride e.g. window/door frame, artificial leather, wallpaper etc.	Limited	1
PVFL (PVLf) Polyvinyl Formal e.g. sponge, bath sponge, Photo film etc.	Yes	20
PVB Polyvinyl Butyral e.g. safety glass mezzanine, antitrust paint, paints, glue etc.	YES	60/80
PF Phenol-Formaldehyde e.g. bakelite products, brake disc, gear wheel etc.	Limited	4

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UF Urea-Formaldehyde e.g. lighting parts, phone parts, celotex board, button etc.	Yes	20
MF Melanine-Formaldehyde e.g. calculator exterior, calculator board, adhesive etc.	Yes	10/20
PET Polyethylene Terephthalate e.g. video tape, chain, bearing, beverage bottle etc.	YES	80
PBT Polybutylene Terephthalate e.g. mechanical parts, screws, exterior of electrical appliances etc.	Yes	20/30
EP Epoxy Resin e.g. adhesive, paints etc.	Limited	2
PTFE Fluoreod Plastics e.g. oil-free mechanical parts, piping wrap, non-stick pan etc.	NO	0
PPS Polyphenylene Sul e.g. bearing, bearing frame, electric socket etc.	NO	0
PPO (MPPO) Polyphenylene Oxide e.g. petrochemical pipe, TV parts, electronic parts etc.	NO	0
BR Butadiene Rubber e.g. tyres, shoe sole etc.	YES	100
SBS Styrene-Butadiene-styrene e.g. shoe sole, cable protector and insulator etc.	YES	80