



Gob, Spew and Snot - the jargon of the plastics industry

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Dieplast PC is a modified PC granule for shotblast deflashing DMC and BMC mouldings. Dieplast 12 is a PA-based media (sic) for cleaning composite moulds. Both grades are available in particle sizes from 0.25 to 8mm³.

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The plastics industry has a rich, if sometimes indelicate, vocabulary derived from the traditional glass and metalworking trades, from the shop floor artisan as well as from chemistry and engineering. In recent years it has been much influenced by modern German.

Plastic or Plastics?

It is passionately argued in some quarters that the adjective meaning "made of plastic" should be "plastics" and that "plastic" means "mouldable". Thus, a car has a "plastics bumper" not necessarily a plastic one. Advertisements appear seeking "Plastics Engineers" - the choice of adjective does not remove the ambiguity. In this essay I have used whichever seemed more natural.

Chemistry and engineering

The vocabulary in the plastics industry derived from the academic fields of chemistry and engineering is fairly straightforward and an understanding of the classical roots will usually yield a convincing etymology.

In particular there is a formal chemical nomenclature with such bizarre "words" as "pent-2-ene" and "di-N-butylamine". The polymer industry prefers more usable names so while a chemist refers to the "diglycidyl ether of bisphenol-A" a technologist will call it an "epoxy resin".

Engineering has contributed terms like "flexural modulus", "torsional rigidity", "creep and rupture", and a large number of eponyms: newtonian, Young's modulus, troutonian, Bingham plastic, (plastic here is the adjective and has no implicit connection with polymers).

Interesting exceptions to the Greek and Latin are found in "rubber" a generic term for a wide range of natural and synthetic products, derived simply from the use to which an

India rubber eraser is put, while "gutta percha", which describes a similar material is derived from the Malayan name for the tree which yields it.

Etymologists may stumble over "melamine", which is derived neither from the Greek melás "black" nor yet from méli "honey"; Liebig, a German chemist simply liked the sound when he first prepared the substance in 1834 (1). Eastman did exactly the same at the end of the last century with "Kodak"(2).

Shop-floor English

"Gob" is defined as "A mass or lump; a lump, clot of some slimy substance (now dial. or vulgar)"(3). It is in current use for a lump of glass at a temperature at which it is plastic or workable. A lump of plastic (usually where it is not wanted) in a similar condition is also a gob.

In resins it is not unusual to find small inhomogeneities of higher viscosity than the parent resin. These are very precisely described as "snots". It is a term which can be used in an internal technical report, although it would be unlikely to reach the outside world in sales literature, for instance.

Around the "split-line" of a moulding will be a "witness" called the "flash line". Material traveling along the flash line is called "flash", but if an excessive amount reaches the outside, it is known as "spew". Less dramatic material loss from the "nozzle" is called "drool".

The noun "virgin" is used as an adjective in "virgin material" and again as a noun, now uncountable, "virgin" meaning new material from a supplier. It is commonly blended with "regrind" derived from defective mouldings or otherwise recycled.

The defects themselves are described in fairly basic terms, mostly self-explanatory:

shorts, splash-marks, voids, sinks, weld-lines, burn-marks, delamination, flashing, stringing, flow-lines

or arcane:

dieseling, mica-marks, record-grooving, orange-peeling, cold slugging.

The German influence

There are many examples of "germanicisms". It is inevitable that the Germans, who now dominate Europe's plastics industry, should influence its jargon.

A machine movement known for years in English as "suck-back" is now commonly called "decompression" from the German Dekompression. A process known as "sandwich moulding" (which tells layman and professional alike all he needs to know) is coming to be called "two component moulding" but the unwieldy term is often shortened, not to 2-C, but rather to 2-K from zwei Komponenten.

The English "barrel cap" has become the literally translated "cylinder head", "screw-back" has become "metering" or even "dosing" from dosieren and such oddities as "tempering device" for "temperature controller" and "water battery" for "sight glasses" are commonplace in written and spoken language.

Technik, made famous by the television advertisements, is frequently translated as "technique" or "technology" when the best rendering would often be "engineering".

TLAs (Three Letter Acronyms)

There are hundreds of these: some are pronounceable acronyms while others are just initials. Everyone is familiar with PVC but few outside the industry know it stands for poly vinyl chloride. The recycling of plastic bottles has given some currency to PET (always pronounced as three letters) and even chemists find polyethylene terephthalate rather a mouthful. MFI is not a material; it stands for "melt flow index".

Two- and four-letter initials are used too, of course: PA is short for polyamide, or nylon, and PTFE for polytetrafluoroethylene, better known by the trade name "Teflon".

Trade names

There are now more registered trade names than words in the English language (4) and whole books could be written on the subject. However, a few of the more interesting ones will illustrate their contribution to plastics jargon.

Often there seem to be two languages spoken in parallel: chemists and designers use chemical or generic names while in the commercial departments and on the shop floor the trade name holds sway.

Leo Baekeland was the first chemist to react phenol formaldehyde resins with any success. He registered the new material as "Bakelite" (5), now a generic term for that class of resins otherwise known as "PFs".

"Nylon" was a registered trade name of the Du Pont company. As a material for stockings, the name "No-run" was suggested but it was realised that the claim was too great and "Nuron" and "Nulon" finally gave way to the now familiar "Nylon". It is now in general currency and may be written without the capital letter. The supposed derivation from New York and London where the laboratories were is a coincidence. The plural "nylons" has of course an associative meaning of its own. Again, to the more technically minded these are "PA 6" or "PA 12" where the numbers are to do with molecular structure.

Most people are familiar with "Perspex" - poly methyl methacrylate from ICI. To a German it is "Plexiglas" and is made by Bayer. In the mould shop they are often referred to simply as "acrylates" (or PMMA).

Shop floor use of trade names in preference to generic names can be a problem. "Victrex" might be nylon or PEEK (pronounced as a word), polyether ether ketone; the properties and handling are different and confusion sometimes arises.

Redundancy of terminology

Perhaps because of the many influences on the jargon, there are often many terms for the same idea. For example:

second stage	follow-up pressure
hold pressure	holding pressure
hold-on pressure	low pressure

plastician - plastics technician

plastorium - plastics auditorium, a museum for plastic artefacts

imagineer - imaginative engineer

Conclusion

The foregoing text may enable the reader to translate the paragraph of jargon at the top of the paper into more comprehensible, albeit still highly technical English:

Dieplast PC (a polycarbonate-based plastic for moulds) is a (chemically) modified polycarbonate granule for shotblasting mouldings made of dough moulding compound and bulk moulding compound (actually the same thing) to remove the thin wafer of excess material around the joint between the two parts of the mould. Dieblast 12 is based on polyamide 12 and is for cleaning moulds used for composite materials (i.e. mixtures). Both grades are available in particle sizes from 0.25 to 8mm³.

The resulting prose is now twice the length and gives no extra information to an insider. The original was not written for elegance or eloquence.

It was compact and precise and entirely appropriate in a trade journal whose readership speaks the language.

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References:

- (1) (3) Shorter Oxford English Dictionary, OUP, 1983
- (2) Kaufmann M, The First Century of Plastics, PRI, 1963
- (4) Dunkling L, The Guinness Book of Names, Guild Publishing, 1986
- (5) Tschimmel U, Die Zehntausend Dollar Idee, ECON Verlag, 1991