

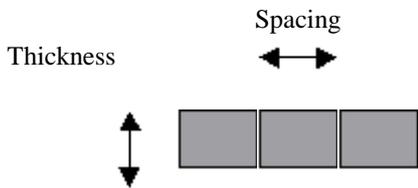
Technical Datasheet

Correx Product Specifications

Correx twinwall polypropylene sheet is produced to your specification in 2 basic forms which cover a wide variety of possible configurations.

The table below shows some standard production specifications together with typical applications.

| Weight per square metre | Die '3' (fine flute) | Die '4' (wide flute) | Die '8' | Typical applications |
|------------------------------|------------------------|------------------------|------------------------|---|
| | Flute spacing 3.2mm | Flute spacing 5.0mm | Flute spacing 9.0mm | |
| <i>gms</i> | <i>mm thickness</i> | <i>mm thickness</i> | | |
| 300 | 2.1 | - | | Lightweight, disposable, waterproof trays and layer pads. Small signs and displays, cartons. Portfolios, cases, presentation packs. Outdoor signs, large trays and transit cases. Heavy duty layer pds, containers and signs. |
| 350 | 2.1 | - | | |
| 400 | 2.6 | - | | |
| 450 | 2.8 | - | | |
| 500 | 3 | 3.5 | | |
| 550 | 3 | 3.5 | | |
| 600 | 3 | 3.5 | | |
| 650 | 4 | 4.0 | | |
| 700 | 4 | 4.0 | | |
| 1050 | 5 | 5.0 | | |
| 1250 | 5 | 6.0 | | Construction - concrete formings. Visual display boards. |
| 1500 | 5 | 6.0 | 7 | |
| 1250 | | | 7.5 | |
| 1650 | | | 7.8 | |
| 1800 | | | 8 | |
| 2000 | | | 9.5 | |
| Maximum width (S or Z Grade) | 2500* | 1270* | | |
| Maximum width (T Grade) | 2460 | 1230 | | |
| Minimum width | 160 | 160 | | |
| Minimum length | 500 | 500 | | |
| Maximum length | 3500** | 3500** | | |



**This dimension is variable according to quality requirements.*

***Longer lengths may be made, subject to minimum quantities.*

Dimensional tolerances are width across flutes ± 2 mm, length along flutes $-0/+20$ mm. Sheets can be squared up to ± 2 mm by a separate operation.

COLOURS:

Translucent, White, Black, Blue, Silver, Dark Blue, Yellow, Green, Red
Special colours are available for a minimum order of 1000Kgs.

GRADE ABBREVIATIONS USED (Please specify requirements):

| | | |
|----|---|---|
| T | = | Screenprinting quality (suitable for signs) |
| S | = | Packaging quality not guaranteed for screen printing |
| Z | = | 100% reprocessed polypropylene used |
| FR | = | Flame retardant |
| UV | = | Ultra Violet stabilised to give outdoor life in UK of 3 - 5 years |
| AS | = | Static reducing additive used |

CONVERSION:

Correx may be converted on conventional machinery by diecutting, creasing, slitting, stitching etc. Correx Plastics also have purpose designed welding equipment.

PRINTING:

A corona discharge treatment to the surface of the material renders it suitable for screen and flexographic printing. This treatment (designated 'T') must be specified when an order is placed.

AVAILABILITY:

For further information, e.g. minimum order quantity, or to determine the location of your nearest specialist stockist of Correx sheet, contact the sales office who will advise you on your specific requirements.

CORREX TECHNICAL INFORMATION

INTRODUCTION

The name 'Correx' applies to a range of extruded corrugated plastic sheet based on a propylene ethylene copolymer. The natural polymer is chemically inert and is generally recognised by legislative authorities as being non-toxic and safe to use in contact with foodstuffs. The polymer has been safely used in large quantities for over 25 years in all the normal thermoplastic conversion processes. The Correx sheet itself is more recent; it has been marketed since 1972. This note has been prepared to give information on the potential hazards in handling and processing Correx sheets in all their forms, including sheets containing pigments and UV stabilising additives.

EFFECT OF HEAT/BURNING

Propylene ethylene copolymer is sensitive to oxidation in the presence of heat and/or UV light, and thus all Correx sheets contain anti-oxidants and other stabilisers to improve their heat and light stability. These additives are melt blended with the polymer during granule manufacture and so do not constitute any extra health hazard under normal handling conditions.

(a) Effect of heat

Correx can be handled at normal processing temperatures. Small quantities of fumes are evolved at about 220°C due to a partial volatilisation of some stabilisers and/or of lower molecular weight hydrocarbons. These gradually increase until at about 300°C decomposition and oxidative pyrolysis proceeds at an appreciable rate. The softening temperature for Correx sheet is approximately 144°C and its crystalline melting point is approximately 160 - 175°C. If for any reason Correx sheet should become molten, and any of the molten polymer comes into contact with the skin, medical attention must be sought immediately.

(b) Burning behaviour

Typical thermal properties for propylene ethylene copolymer are as follows:

| | |
|---|------------------|
| Softening temperature (BS 2782: 102D, ISO R306) | 144°C |
| Crystalline melting point | 160 - 175°C |
| Flash ignition temperature | ca 350°C |
| Self-ignition temperature | ca 380°C |
| Calorific value | 11000 cal. kg |
| Specific heat | 0.46 cal gm °C |
| Limiting oxygen index (ASTM D2863) | 0.174 - 0.180 |
| Burn rate - Correx sheet (FMVSS 302) | 5.3 - 8.2 cm/min |

When Correx is heated in air above 300°C, decomposition and oxidative pyrolysis takes place. The heat of oxidation may produce a rapid rise in temperature which accelerates the pyrolysis. Under these conditions carbon monoxide, formaldehyde and acrolein are evolved. These evolved gases may ignite. Once ignition occurs sufficient heat will be generated to accelerate further the pyrolysis, thereby releasing further quantities of low molecular weight fractions. Burning is accompanied by the release of flaming molten droplets of polymer which could ignite other flammable materials which are nearby.

Carbonisation also occurs and some of the carbon is released as soot. The main combustion product in flaming conditions is generally carbon dioxide. However, in confined spaces rapid deoxygenation of the air can occur, resulting in increased amounts of carbon monoxide.

Appreciable quantities of acrolein and other toxic aldehydes can also evolve over a limited range of temperatures. This pyrolysis is very similar to that of wood and other cellulosic materials though there are differences in detail.

The comments made on the burning behaviour of Correx can only be of a general nature, since the conditions in a fire situation will depend upon many factors, such as location, the presence of other flammable materials and the availability of air, and can never be fully predicted. Should a fire involving Correx occur, however, any commonly available fire extinguisher may be used. It has been found that powder extinguishants are very effective in quenching flames although they do not have the cooling ability needed for a deep seated fire. Water sprays are especially effective in rapidly cooling and damping down a fire, but the use of jets of water in the early stages of a fire is not recommended since they could help to spread the flames.

TOXICITY

Translucent Correx is chemically inert and is generally recognised as being non-toxic.

UV stabilised Correx can also be handled under normal circumstances without any extra health hazard. However, the UV stabilised polymer does not possess food contact approval.

Pigmented (coloured) Correx contains pigments which are fully compounded into the polymer and encapsulated by it, hence they do not constitute any extra health hazard under normal handling conditions. The pigmented polymer is considered suitable for most food contact usage situations. The exceptions to this are recycled Correx, flame retardant grades of Correx and conductive grades of Correx which contain polymer formulations that do not possess food contact approval.

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