Corrosion Resistance
CHROMAPREP® serves as a good corrosion inhibiting primer coat for subsequent painting. Resistance to corrosion creep is improved by using a galvanized steel substrate, which is strongly recommended for exterior applications.

Cleaning of Primer Coat Before Final Painting
Surfaces should be cleaned by removing surface contaminants by wiping with natural mineral turpentine, solvent naphta or methylated spirits, followed by a warm water detergent wash and a clean water rinse. Users are advised to ensure that thinners or adhesives used, are compatible with CHROMAPREP®. The CHROMAPREP® primer coat is slightly undercured to ensure good bonding of subsequent top coats. The liberal use of strong solvents can and will detach the primer coat, which may lead to premature peeling of the paint.

Common lacquer thinners such as chlorinated hydrocarbons or ketones (MEK) should not be used for cleaning purposes as these may affect the adhesion of the epoxy primer-coat.

Application of Paint Coatings
The required paint finish can be applied by normal spray, airless spray or brushing techniques. Usually an additional primer coat will not be necessary, but for most paints a better bond between the CHROMAPREP® surface and the top coat, as well as a higher quality paint surface, may be obtained by application of a primer or intermediate coat for the selected paint systems.

Amongst current industrial products, the following paint systems can be applied to CHROMAPREP®: alkyds, vinyls, acrylics, polyesters, powder-coatings, stoving enamels, epoxies and poly-urethanes.

5.7 PAINTED COLD ROLLED GALVANIZED STEEL SHEET PRODUCED IN A CONTINUOUS COATING LINE (CHROMADEK® OR CHROMADEK® PLUS)

CHROMADEK® is the trade name for this pre-painted galvanized steel sheet. CHROMADEK® is a colour coat comprising a Z275 hot dip galvanized substrate, pre-primed on both surfaces with a 4 to 6 micron DFT primer.

CHROMADEK® paint is then applied to both surfaces, a 20 micron DFT to one surface and about 8 micron DFT to the opposite surface *(figure 17)*.

The colour coated products are coated on a sophisticated continuous roller coating line. The modern coating process permits good control of the important painting parameters and rigid quality control on each finished coil ensures that every batch conforms to specification. Excellent paint adhesion is achieved and corrosion resistance enhanced by careful preparation of the steel sheet under factory conditions prior to paint application. The paint systems are oven cured. The aesthetic appearance and durability of CHROMADEK® cannot easily be achieved by conventional hand painted systems.

The coating is highly formable and provides additional protection under conditions where the corrosion resistance of unpainted galvanized sheeting may prove inadequate.

Corrosion Resistance
CHROMADEK® is intended for exposure to rural, mildly chemically polluted or moderate marine conditions. Best results can be obtained through the correct application, good workmanship and maintenance procedures.

NOTE: CHROMADEK® is not recommended for application in marine environments (area approximately 1km from the sea) or exposure to industrial environments where there is an accumulation of strong acid vapours. CHROMADEK® PLUS is recommended for these conditions.

CHROMADEK® PLUS is a colour coat comprising a Z275 hot dip galvanized steel substrate, pre-primed on one or both surfaces with 20 - 25 micron DFT chrome free universal primer. Alternatively, only one surface is coated in accordance with the above and the other surface as per the standard CHROMADEK® (4 - 6 micron DFT). CHROMADEK® paint is then applied to both surfaces, both to 20 micron DFT *(figure 17)*.

The Plus system has excellent physical properties, excellent flexibility, excellent corrosion resistance with excellent resistance to ultraviolet radiation (UV performance).

Corrosion Resistance
CHROMADEK® PLUS is recommended for exterior building profiles in applications requiring high formability, good gloss retention, high colour stability and excellent corrosion resistance. It is suitable for corrosive environments such as industrial and marine environments. Marine environments can generally be defined as areas within 1km of the sea *(table 11)*.

5.8 FASTENING METHODS

Mechanical fastening systems such as rivets, self-tapping screws, bolts and nuts, spring clips and wire staples can be used, as well as various seaming methods including lock- and box seaming.

Where protection is needed, fasteners should, where possible, be:
- hot dip galvanized; or
- manufactured from a corrosion resistant material; or
- electroplated and overcoated with a suitable top coat.

Cutting, Touch-up and Maintenance
Abrasive cutting or trimming of CHROMADEK® sheeting on roof tops should be avoided. Should cutting be necessary, remove all iron particles by vigor-

PROPERTY	TEST CONDITIONS	METHOD	SPECIFICATION	TYPICAL
Resistance to colour change	QUV (1000 hours)	ASTM G154		ΔE<5, e.g. Gemsbok Sand
Resistance to chalking	QUV (1000 hours)	ASTM G154 ASTM D4214		Rating Range: 1-2
Resistance to corrosion: - Edge creep - Blister size	Salt spray (1000 hours) After 1000 hours After 1000 hours	ASTM B117 ASTM D714	 ≤ 3mm ≤ 8F	 < 2mm < 8F
Flexibility: bend test		ASTM D4145	3T. No adhesion loss	2T. No adhesion loss
Flexibility: reverse impact		ASTM D2794	No cracks No adhesion loss	No cracks No adhesion loss
Film hardness		ASTM D3363	F - H	F - H
Dry film thickness		NCCA 4.2.2	22µm minimum inclusive of primer	22µm minimum inclusive of primer
Gloss at 60°	At time of coating	ASTM D523	25 - 35%	25 - 35%

Table 11. CHROMADEK® paint system properties.