



## Standard Manufacturing Tolerances of Rimex Metals Group ("Rimex").

### 1. General:

(a) Rimex follows the industry standards for the Technical Delivery Conditions of stainless steel products under BS EN 10088.2 and BS EN 9445.2. In Rimex's operations these apply as standard to austenitic stainless steels in sheet sizes 2,000mm to 3,000mm and within the gauge range of 0.5mm to 2.0mm.

(b) It is often possible to manufacture to tighter tolerances than stated herein and would need to be agreed and confirmed in writing before placing an order for them to be applicable and binding upon Rimex.

(c) For products outside the parameters stated herein including for ferritic stainless steels, metals other than stainless steel, other gauges, lengths less than 2,000mm, lengths over 3,000mm, other specific cut to length requirements, coil material etc. wider tolerances are often available and would need to be agreed and confirmed in writing before placing an order for them to be applicable and binding upon Rimex.

(d) For certain project or contract work Rimex may issue in writing specific tolerances which will govern the supply of materials for a particular order and these tolerances will supersede these standard manufacturing parameters and all other documentation associated with the contract.

### 2. Non-standard requirements:

(a) Non-standard requirements are available upon request including a cut to length service. Different tolerances may apply to these

products and would need to be agreed and confirmed in writing before placing an order for them to be applicable and binding upon Rimex.

(b) For orders needing non-standard tolerances there can be minimum order quantities and or the requirement that the customer accepts the entire quantity that is required to be manufactured.

### 3. Grades of stainless steel and other metals:

(a) There are a number of grades of stainless steel available for supply. The most commonly used are the austenitic grades of AISI 304 / EN 1.4301 and AISI 316 / EN 1.4401. These tolerances stated herein apply to these grades.

(b) Other grades of stainless steel include AISI 430 / EN 1.4016 and other ferritic options. These usually require different tolerances. Please enquire of your local Rimex sales office for details.

(c) Other types of metals including aluminium and galvanised steels can require different manufacturing tolerances to those stated herein. Please enquire of your local Rimex sales office for details.

### 4. Samples:

(a) Samples supplied by Rimex are for promotional purposes only and are not to be used as control materials for goods supplied.

(b) If control samples are required for a specific order, for these to be applicable Rimex must be notified in advance and have accepted this requirement in writing.

### 5. Gauge tolerances:

Standard gauge tolerances are as per manufacturing mill standards under BS EN 9445.2 and are +/- 0.05mm.

### 6. Width tolerances:

Standard widths are 1,000mm, 1,250mm and 1,260mm. Non-standard widths are available upon request. Width tolerances are as per manufacturing mill standards under DIN 59 382 and are +/- 2mm.

### 7. Length tolerances:

Standard sheet sizes are 2,000mm, 2,500mm and 3,000mm. Non-standard lengths are available upon request. Standard length

tolerances are -0mm +15mm and can be significantly improved upon request.

### 8. Flatness tolerances:

Standard flatness tolerances are:

Belly: 5mm maximum centre fullness of the sheet;

Edge ripple: 5mm maximum edge ripple down the length of the sheet; and

Crossbow: 10mm maximum across the sheet.

### 9. Manufacturing Marks:

Materials can be supplied with minor manufacturing marks. These are caused either by material having to undergo additional processes or they are present in the raw material as supplied. These will be kept to a minimum at all times. In such circumstances these minor defects are inherent within the raw material or the manufacturing process and are unavoidable, are commercially viable as supplied and cannot be rejected.

### 10. 2B Stainless Steel:

2B stainless steel can be supplied with minor defects which are present in commercial quality raw material as supplied to Rimex. This is the nature of 2B stainless steel. In such circumstances these minor defects are inherent within the raw material and are unavoidable and the product is commercially viable as supplied and cannot be rejected. This is particularly relevant to Granex™ M1B and VorTex™ DS Soft which use 2B stainless steel. See 15 and 17 below.

### 11. Patterned products:

(a) Different patterns can have different parameters: please consult Rimex for details.

(b) All patterned products other than 6WL will increase in length by between 0.002% - 0.004% for austenitic steels depending upon gauge and pattern.

(c) The 6WL pattern in 0.7mm and less will shrink by between 0.001% - 0.003% for austenitic steels and will increase in length for 0.8mm+ material by between 0.002% - 0.004%.

(d) Rimex may supply OneTex® product 1250mm to 1,260mm wide.

### 12. Pattern Definition:

Pattern definition will change with thicker gauges and can differ to issued samples. Pattern definition can also vary with different batch materials and with separate orders. The pattern definition can fall outside definition and registration requirements for gauges thicker than 1.5mm.

### 13. ColourTex® Coloured Stainless Steel:

(a) The standard colours of ColourTex® stainless steel are black, blue, bronze, charcoal, gold, green and red.

(b) Interim colours are available. These are champagne, rosy gold and purple. The interim colours can be difficult to manufacture to a tight range and a wider range of colour parameter is usually required for orders for these interim colours.

(c) The nature of coloured stainless steel is that colour may vary in different lighting conditions and between batches of stainless steel and production runs and it is often necessary to agree control samples prior to manufacture. It is a metamerism product.

(d) On larger orders it is advisable to agree control samples to define an agreeable colour range prior to the placing of an order. Unless control samples are agreed Rimex is not responsible for differences in tone and appearance of the ColourTex® product.

(e) Due to the nature of the manufacturing process all ColourTex® products will be supplied with holes approximately 5mm in diameter regularly spaced down one length and up to 10mm from the edge of the material.

(f) The colouring process can leave streaking in the ColourTex® products and in particular with coloured Granex™ finishes. Rimex will reduce these to a minimum, however, this is deemed acceptable and within the manufacturing parameter of the product. In such circumstances these minor defects are inherent within the raw material or the manufacturing process and are unavoidable, are commercially viable as supplied and cannot be rejected.

(g) It is not always possible to match colour parameters to different gauges and Rimex cannot be held responsible where this occurs. In such circumstances the difference in colour cannot be avoided and the materials are viable as supplied and cannot be rejected.

(h) The standard ColourTex® product range is 0.55mm to 1.5mm. Gauges under 0.55mm and over 1.5mm are possible but the quality of raw material tends to deteriorate and consequently the surface finish can contain minor defects. In such circumstances these minor defects are inherent within the

raw material and are unavoidable and are commercially viable as supplied and cannot be rejected.

(i) As a part of the manufacturing process for satin colour and AISI 316 / EN 1.4401 materials it can be necessary to electro-polish materials. When materials are electro-polished there are grip marks on one side of the material approximately 70mm in length and 15mm in depth.

(j) Samples issued for promotional purposes are not acceptable as control samples.

**14. Hi-lighting:**

Hi-lighting is used with colour pattern combination products such as Pearl, Pagoda, Pippin etc. and for uncoloured products such as Raindrop, Checks etc. The depth of the polish hi-lite can vary depending upon the gauge of the material and the hardness of the material. Consequently, slight variations in the hi-lited shape and area are to be expected within order quantities.

**15. Granex™ Bead Blast product:**

(a) The nature of Granex™ product is that the tone may vary between different sheets and batches of raw material. Unless control samples are agreed Rimex is not responsible for differences in tone and appearance of the Granex™ product.

(b) The Granex™ product can be supplied with minor defects which are present in the raw material. This is the nature of the finish.

Granex™ M1A is Rimex's standard product. Granex™ M1B is manufactured on a 2B stainless steel sub-strate and can contain a higher level of blemishes and defects in the base raw material than the Granex™ M1A finish which the manufacturing mills deem commercially acceptable. These will not always be hidden or removed by the application of the Granex™ M1B finish and in such circumstances these minor defects are inherent within the raw material or the manufacturing process and are unavoidable and are commercially viable as supplied and cannot be rejected.

**16. MetalArt™ product:**

(a) Standard MetalArt™ finishes are supplied with a bead blast finish.

(b) Rimex is not responsible for any materials that are supplied with defects caused by erroneous artwork or drawings that are supplied by the customer.

**17. VorTex™ multi-directional polish:**

(a) The nature of the VorTex™ product is that the tone may vary between different sheets and batches of raw material. Unless control samples are agreed Rimex is not responsible for differences in tone and appearance of the VorTex™ product.

(b) The VorTex™ product can be supplied with minor defects which are present in the raw material. This is the nature of the finish.

VorTex™ BS Soft is Rimex's standard product. VorTex™ DS Soft is manufactured on a 2B stainless steel substrate and can contain a higher level of blemishes and defects in the base raw material which the manufacturing mills deem commercially acceptable. These will not always be hidden or removed by the application of the VorTex™ DS Soft finish and in such circumstances these minor defects are inherent within the raw material or the manufacturing process and are unavoidable and are commercially viable as supplied and cannot be rejected.

**18. Imprimo™:**

(a) Imprimo™ finishes are custom designs of different shapes, sizes and spacing that can be rolled into all types of metals.

(b) Gauge possibilities and flatness tolerances are different with every dimension required and these would need to be agreed before placing an order. In particular flatness tolerances need to be understood as the tolerances detailed at 8 above might not be applicable.

**19. Rigi-Tube®:**

(a) Standard Rigi-Tube™ product is in the 7GM® and 7GM® Reverse patterns 35mm diameter 1.5mm thick and in 6,000mm lengths.

(b) The material thickness can vary by +/- 0.08mm. The variation of the nominal tube can be +/-0.1mm. This means the outside diameter of the Rigi-Tube product can vary by up to 0.28mm.

(c) Other patterns and dimensions are available upon request but will be subject to minimum order quantities.

**20. Polished Finishes:**

(a) There are numerous polished finishes that can be supplied. Unless stated to the contrary where a customer orders a satin polish Rimex will supply its standard 120 Silicon grit belt satin polish. Where a customer orders a brush polish Rimex will supply its standard brush polish finish which is a 120 silicon belt polish blended with a 240 grit aloxide brush polish.

(b) There can be minor differences in the polish appearance between sheets and batches. This will be kept to a minimum but is present in all polished finishes. These are to be expected and materials are commercially viable as supplied and cannot be rejected.

**21. Batch Ordering:**

(a) Material used by Rimex in its manufacturing processes can differ in tone and appearance. This is the nature of metals such as stainless steel, aluminium and other alloys.

(b) Rimex is not responsible for any inconsistency of finish in material supplied unless it is notified of, and agrees to, such a requirement on accepting an order.

(c) Batch ordering is always advised to assist the consistency of finish. Raw material should be ordered at the same time from the same batch from the same supplier. However, Rimex cannot guarantee that the manufacturing mill will provide material from the same cast, or that that material will match if supplied from different batches.

**22. Protective Tape:**

(a) Unless ordered to the contrary all material is coated with standard commercial protective tape.

(b) No warranty is provided by Rimex as to the suitability of coating used. Data sheets are available upon request.

(c) If a warranty is required the customer should deal direct with a protective tape supplier and notify Rimex of the coating to be used. The use of non-standard protective tape might be an additional cost to previously quoted prices.

(d) Protective tape should be removed as soon as practical and should not be exposed to environments, direct sunlight and temperatures that might cause delamination of adhesive on the coating. The customer is always advised to seek information from the coating manufacturer. Rimex cannot provide information or warranties in respect of protective tape.

**23. Promotional Materials:**

All data, images, drawings, descriptions and other information furnished by Rimex including verbal information and in or on its website, catalogues, brochures, CD's, pamphlets, price lists or other documents or other promotional media are intended to be as accurate as possible but are given for general information only and are not binding on Rimex in respect of a particular order. All information, unless stated otherwise, is subject to reasonable variations. Rimex does not accept responsibility for errors or for information which is found to be misleading. Before using products supplied or manufactured by Rimex the customer should satisfy itself of their suitability for any required purpose.

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