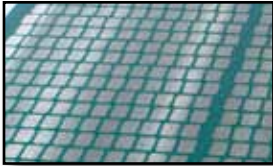




# Quality and Value in Pretensioned Screens

**KEM-TRON**  
Oil & Gas

Specialists in creating value through solution-oriented packaging, integration and system customization.



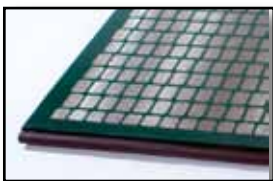
## Triple-Layer Stainless Steel Mesh Screen

KEM-TRON's pretensioned screens are fitted with three layers of high-strength 304 stainless steel mesh.



## Fully Welded Rigid Frame

To ensure strength, each screen is supported by a metal frame that is fully welded prior to powder-coat application.



## Durable D-Gasket for Tight Screen Sealing

Each screen is fitted with a durable Buna-N (i.e. Nitrile) hydrocarbon-resistant D-gasket good for service from -40°C to 108°C.



Mechanically, the goal of a powder-coating pretensioned screen is to laminate multiple layers of wire mesh to a perforated steel plate and welded steel frame. As such, the quality of a powder-coated pretensioned screen is related to the bonding strength of the powder coat and the chemical and thermal resistance of the powder coat to environmental attack.

KEM-TRON's original pretensioned screens took advantage of an epoxy powder coating system due to its good chemical resistant properties and industry accepted bonding strength. Unfortunately, and as many end-users have learned over the years, epoxy powder coated screens are intolerant to uncontrolled curing temperatures and heat application durations. The solution was the development of a special coating system designed to meet KEM-TRON's engineering requirements.

## Polyester Powder-Coat

By partnering with one of the industry's leading powder-coat manufacturers, KEM-TRON was able to develop a special powder coat formulation based on polyester resin. This specially blended polyester powder coat provides significantly improved mechanical bonding properties, improved bonding coverage and environmental resistance. Special additives are blended into the polyester formulation to enhance the mechanical properties compared to polyester alone. These additives allow for a higher level of cross-linking of the resin binder, ultimately producing a harder and more durable coating.

## Process and Quality Control

When curing temperatures and raw material preparation are not carefully controlled, failures become highly likely with respect to screen to frame fusing, powder coat bonding, and screen surface strength. Ultimately, screens prematurely delaminate or tear.

To develop both precise and accurate process control, KEM-TRON conducted a battery tests.

These tests included; cure tests by varying time and temperature; bonding strength tests by testing the tensile strength of the cure screens through destructive testing; and chemical exposure tests by immersing a series of screens in chemicals characteristic of the oil & gas industry.



*Each KEM-TRON screen design is subjected to a destructive examination designed to consistently measure the laminate bonding strength..*

## Chemically Enhanced Mechanical Separation

By combining expertise in both dewatering polymers and solid/liquid separation technologies, KEM-TRON has developed an organization capable of providing complex chemically-enhanced mechanical separation solutions. As a service oriented organization, KEM-TRON's focus is on providing timely value. This value is further enhanced when customers take advantage of KEM-TRON's integration, modularization, and customization capabilities. KEM-TRON will continue to be an industry leader in bringing mobile solutions to the industry's toughest solids management problems.



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### KTL-48-STD

Three-panel single deck shaker using pretensioned or hook strip screens with 28 sq. ft. (2.6 m<sup>2</sup>) of screen surface area and a maximum capacity of 600 gpm (37.8 lps).



### KTL-48-AG

Three-panel single deck shaker using pretensioned screens with 28 sq. ft. (2.6 m<sup>2</sup>) of screen surface area and a maximum capacity of 600 gpm (37.8 lps).



### KTL-48-D

Five-panel dual deck high G shaker using pretensioned or hook strip screens with 43 sq. ft. (4.0 m<sup>2</sup>) of screen surface area and a maximum capacity of 750 gpm (47.3 lps).



### KTL-48-SS Tango

Six-panel dual deck high G shaker using pretensioned or hook strip screens with 56 sq. ft. (5.2 m<sup>2</sup>) of screen surface area and a maximum capacity of 750 gpm (47.3 lps).



As a result of these efforts, KEM-TRON has developed a sophisticated quality assurance program. This program includes sand-blasted frames to ensure a high-grade anchor profile capable of supporting a quality coating bond, thoroughly cleaned perforated plates to ensure that no remaining oils or contaminants remain, and carefully examined stainless steel wire mesh to ensure that no defects are present.

To ensure that each KEM-TRON screen meets minimum quality standards, the temperatures, melt times, and hold pressures are carefully monitored with calibrated instrumentation. From each batch, screens are selected for destructive quality control testing. Screens are submitted to a battery of quality control inspections, including coating consistency, coating adhesion properties, and mechanical strength.

### Verification and Field Testing

KEM-TRON has conducted a host of chemical immersion tests, including: diesel, alpha-olefin, calcium chloride, caustic soda, and kerosene. In all cases, KEM-TRON's new polyester powder-coated screens demonstrated superior environmental exposure resistance, when compared to competitor screens.

Upon successful lab testing, KEM-TRON submitted hundreds of screens to actual field trials. It was these field trials that confirmed that KEM-TRON had achieved a significantly higher level of quality and value.

### API 13C Conformance

KEM-TRON embraces the American Petroleum Institute's (API) new recommended practice for shaker screen testing and labeling, API RP 13C. Previous screen designations were based on calculations, rather than physical testing causing much confusion in the industry. With RP 13C, customers now have a consistent means of evaluating products independent of manufacturer. All KEM-TRON screens are rated and labeled per API 13C.

Table 5 (found on page 40 and 41 of API RP 13C)

### D100 Separation and API Screen Number

D100 Separation (Microns)	API Screen Number
>780,0 to 925,0	API 20
>655,0 to 780,0	API 25
>550,0 to 655,0	API 30
>462,5 to 550,0	API 35
>390,0 to 462,5	API 40
>327,5 to 390,0	API 45
>275,0 to 327,5	API 50
>231,0 to 275,0	API 60
> 196,0 to 231,0	API 70
> 165,0 to 196,0	API 80
> 137,5 to 165,0	API 100
> 116,5 to 137,5	API 120
>98,0 to 116,5	API 140
>82,5 to 98,0	API 170
>69,0 to 82,5	API 200
>58,0 to 69,0	API 230
>49,0 to 58,0	API 270
>41,5 to 49,0	API 325
>35,0 to 41,5	API 400
>28,5 to 35,0	API 450
>22,5 to 28,5	API 500
>18,5 to 22,5	API 635

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