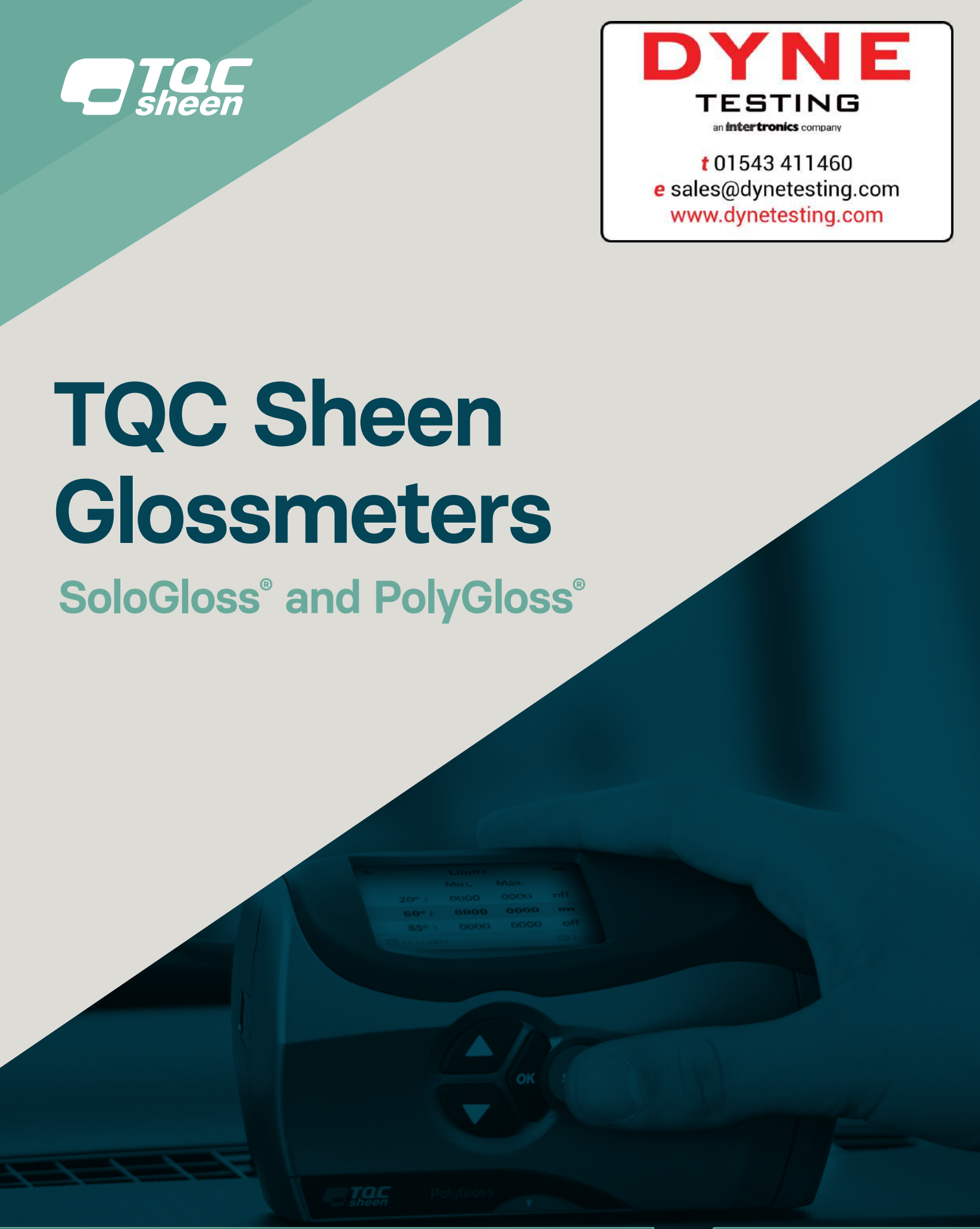
TQC sheen

TQC Sheen Glossmeters

SoloGloss® and PolyGloss®



INDUSTRIAL PHYSICS

Protecting
Product Integrity

TQC Sheen Glossmeters

A new level of confidence

In an economy where production efficiency is key there is no room for errors. Quality has to be perfect, as consumers tend to be more demanding than ever and will accept nothing less than perfection. In addition, production is moving all over the planet. Traditional high performance products are now often manufactured in less traditional countries in order to retain competitive production costs. To safeguard the quality, high-end inspection instruments are crucial to maintain consumer confidence.

The TQC Sheen Glossmeters allow users to accurately, and quickly measure gloss levels on any flat surface. Whether it be paper, paint, plastic, wood or any other material. No special training or skills are required. Just place the gauge, press the scan button and read the values. Template options can also provide the flexibility for use with curved surfaces or small test areas.

Diffusely scattered

Directly reflected

Gloss

The perception of a surface's appearance is significantly shaped by the amount of light reflecting specularly from it. This aspect is just as crucial for inspection as color. The optical properties of gloss analysis depend on a range of variables. Gloss itself is based on the interaction and reflection of light and the physical characteristics of a surface.

By definition gloss is a measure of the proportion of light that has a specular reflection from the surface. The variables that affect gloss are the refractive index of the material, the angle of incident light and the surface topography defined by structure, smoothness and roughness. Materials with smooth surfaces appear glossy, while rough surfaces reflect no or little specular light and therefore appear matt or flat.

In daily life different levels of gloss are recognized. Without knowing specific numerical values we define surfaces as glossy or shiny, semi-glossy, satin or matt. By using a gloss meter you are able to provide numerical data to back up visual perception.

The Range

SoloGloss®

The SoloGloss is the preferred gloss meter for measurements in the semi-gloss range. Light source and detector are positioned under an angle of 60° of the surface to be measured. Making it suitable for most applications.

PolyGloss®

The top of the range is the triple angle PolyGloss. Besides a 60° measuring angle the PolyGloss is also offers 20° and 85° measuring angles thus covering the entire glossspectrum. The 85° specifically is for low gloss levels (high diffuse reflection) or mat surfaces.

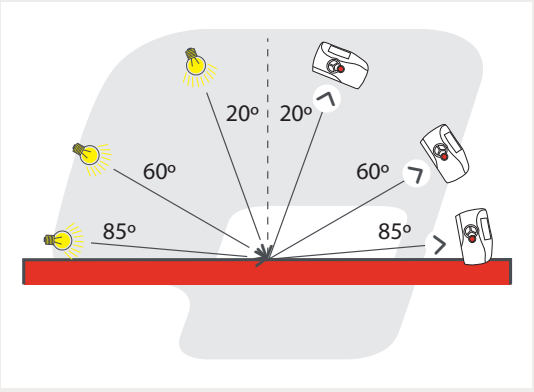
(Depending on the model the instrument can be set to measure and display just one or several measurement angles simultaneously)

GEOMETRY | different measuring angles for different applications

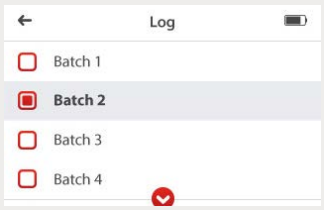
It is common practice to use a 60° angle gloss meter for almost every application.

ISO 2813 advises to use the following geometries to obtain improved differentiation on high-gloss or low-gloss surfaces:

- 20° measuring angle for high-gloss surfaces where a 60° glossmeter typically indicates values higher than 70 GU
- 85° measuring angle for low-gloss surfaces where a 60° glossmeter typically indicates values lower than 10 GU
- The reported gloss value should always mention the measurement angle used



Packed with features



Data logging

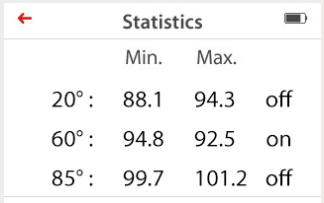
All our glossmeters are equipped with memory for up-to 10.000 measurements that can be organized in 10 different batches. The name of each batch can be set to allow easy data retrieval at a later stage.

Date Time stamp

The internal clock and calendar mark each stored measurement with a date and time stamp. A choice of nine different date formats and two time formats are available.

Data handling

Scrolling through a batch shows individual data directly on the instrument's display. Batches can be cleared one by one or the entire memory can be emptied in one action. See also the section TQC Sheen Ideal Finish Analysis Software. Via a USB interface the measured data can be down-loaded to your PC. Using the TQC Sheen Ideal Finish Analysis software the stored data can be downloaded to a PC.



Statistics

Of each batch statistical data can be shown on the glossmeter's display. The instrument shows minimum and maximum values, average and standard deviation.

Limits/Thresholds

When measurements have a specific specification to meet, it is possible to set High and Low limits. An audible and visual alarm indicates when measurements are outside the set limits. Depending on the model, one or more individual limits can be set for each measuring angle.

Mechanics

Optical stability

The optical components are mounted on an extremely stable chassis made from precision milled aircraftgrade aluminium and in a special injection moulded hi-tech plastic housing. The solid base assures measurements to be accurate under all circumstances and conditions.

USB-C Port

Our glossmeters are equipped with a USB-C port for quick data transfer.

Light source

The glossmeters use special LEDs as light source to guarantee long term stability. Accuracy remains optimal for many years and lightsource replacements are no longer required.

Operation

Menu driven operation allows new users to benefit from all the features of the instrument without having to refer to the user manual. The intuitive structure guides the user through the different screens to measure or change the settings of the instrument when needed.

Ergonomics

LCD Display

The glossmeters are equipped with a color LCD display. The display is positioned at an 35 degrees angle to ensure optimal readability in all conditions.

Shape

The case of the instrument is designed for both right- and left handed users. The upper part is “soft touch” coated for ultimate grip and the wrist strap prevents accidental drops. The rubber operating buttons offer a pleasant feel and user friendly operation.

Calibration

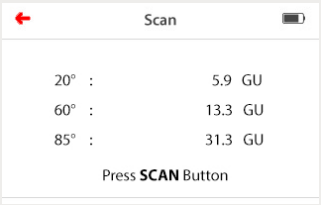
In production the glossmeters are calibrated against a series of reference tiles. Each glossmeter comes with a protective cradle with integrated calibration standard for field calibration.

Power saving

The glossmeters use low power LED light sources and a battery friendly LCD display. A full set of batteries has a 10.000 readings life expectancy. The glossmeters are equipped with an adjustable “auto power off” function between 1 and 59 minutes in order to get the maximum operational life from the batteries. Power is provided by two standard AA batteries.

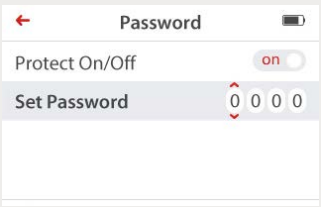
Languages

The instrument is designed for optimal user comfort. Use of a manual is hardly required due to the intuitive menu driven user interface. To make life even easier the glossmeter offers in a wide selection of languages. These languages are English, German, Dutch, French, Italian an Spanish.



Scan mode

Keeping the Scan button pressed down allows the glossmeter to measure continuously at a rate of approximately 60 readings per minute. If selected the readings will be stored in the instrument’s memory.



Login Protection

To prevent unwanted change of settings by unauthorised users certain functions can optionally be protected with a password. This code is user programmable. Instrument setup, limit changes, delete readings, or clear memory are all protected by the selected code.

Calibration

The protective cradle has an integrated calibration standard for field calibration.

Ideal Finish Analysis Software

Our glossmeters are supplied with the powerful Ideal Finish Analysis software, from our specialist testing brand TQC Sheen. Without any extra costs a user can utilize the software to create reports including graphs, tables and comprehensive statistics. Trend, Gauss and many other statistical data sets are possible within the software.

The Ideal Finish Analysis software works with an array of instruments from our TQC Sheen product line, such as CurveX oven profiling dataloggers, DewCheck climate gauges and various coating thickness gauges.

Research

The science behind the glossmeter

Glossmeters start with an understanding of the basic principles of gloss. Surface textures, translucency and color all influence the visual perception of a surface, but also influence the fine optics of the gloss meter. Micro scale surface deformations cause scattering of light and divide it into specular and non-specular. Measuring and comparing these, whilst ignoring color influences allow the glossmeters to perform well under all circumstances.

Component selection

To find the best light source and detector setup, components from suppliers all over the world have been tested. The ones selected for spectral stability, sensitivity and linearity all proved to be very stable on the long run during testing.

Standardization

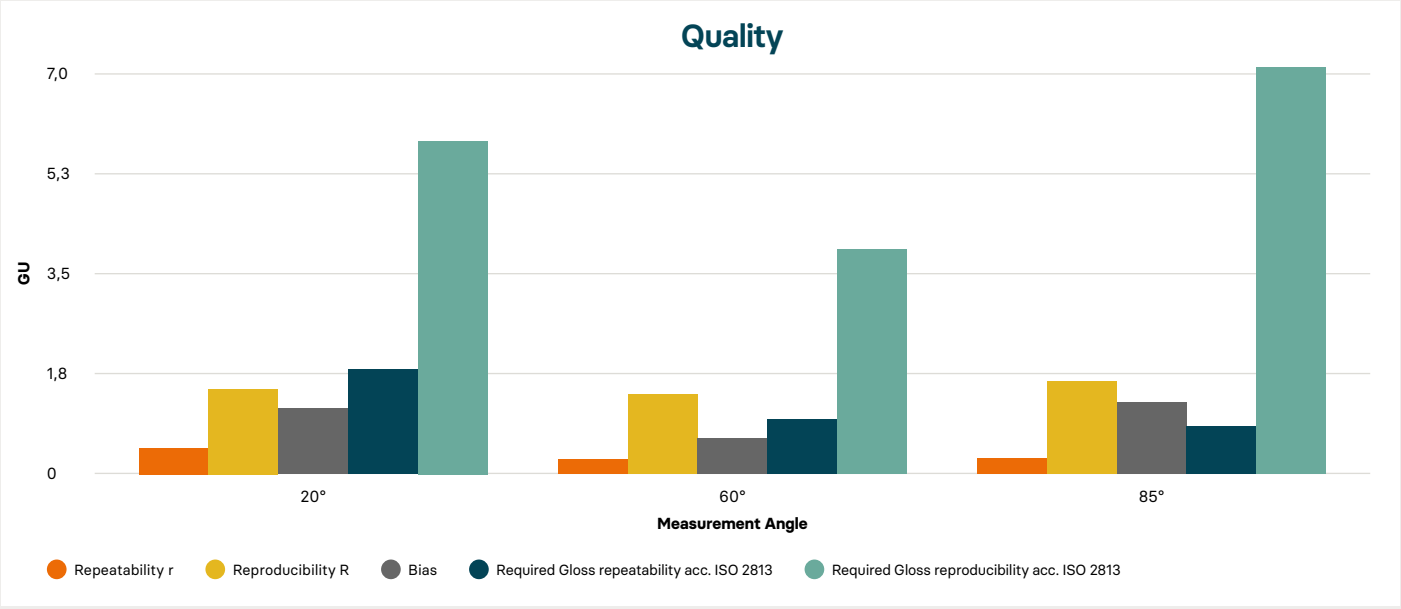
Our glossmeters are very stable meters, fulfilling all the demands of the ASTM, DIN and ISO standards. As one of our specialist testing brands, TQC Sheen is a member of the standardization bodies and actively involved in testing criteria relating to the standards. Ensuring the highest level of conformity.

Precision engineering

To get the best stability, we designed the glossmeter's unique double frame system. Carefully controlling the stability of the light path to ensure the best measurements possible.

Ten thousands of readings

To assess the quality of the glossmeters, thousands of readings were performed on certified substrates to test stability, reliability and durability. Even after drop tests, our glossmeters proved to have the best level of performance.



Where to use a glossmeter...

Our glossmeters are designed to work both in production and lab environments. Its compact size and ergonomic shape make it ideal for all day use on a production line. However The high level of accuracy equals or exceeds most bench gloss meters making it a perfect fit for high demand laboratory applications.

Flooring

Yacht and boat builders

Paint and coatings and Automotive

Furniture

Military goods

Finishing

Solar energy

Plastics

Research and development

Leather

Specifications

Products:	
GL0010	TQC Sheen SoloGloss 60˚
GL0030	TQC Sheen PolyGloss 20˚/60˚/85˚

Operational:	
Calibration standard:	Integrated tile in cradle
Display:	LCD color
Light source:	Low drift LED
Power source:	2x AA alkaline batteries
Batches:	Max 10
Readings per batch:	Max 10.000, independent of number of angles
Total max Readings:	100.000 readings with time stamp
Scan function:	Yes
Statistics:	Min. / Max. / Avg. / Std.dev / number of measurements
Security:	Password protection
Software:	TQC Sheen Ideal Finish Analysis

Dimensions:	
Size (h x w x d):	94 x 145 x 45 mm 3,5 x 5,6 x 1,7 in
Weight:	398 g / 13,7 oz

Measurement:	
Base dimensions:	45 x 130 mm / 1,7 x 5,1 in
Orifice size:	10 x 50 mm / 0,4 x 2,0 in
Spot size:	≈ 5 x 5 mm / 0,2 x 0,2 in @ 20˚ ≈ 20 x 9 mm / 0,8 x 0,35 in @ 60˚ ≈ 40 x 9 mm / 1,5 x 0,35 in @ 85˚
Measurement speed:	60 measurements per minute 1 single or 3 angles consecutively
Power saver option:	User selectable
Units:	Gloss Units (GU)
Resolutions:	0,1 GU (0–100 GU) 1 GU (>100 GU)

	20˚	60˚	85˚
Range	0-2000 GU	0-1000 GU	0-2000 GU
Repeatability r*	0,4 GU	0,2 GU	0,2 GU
Reproducibility R*	1,7 GU	1,6 GU	1,9 GU
Bias*	1,2 GU	0,6 GU	1,6 GU

*Acc. ISO 2813 (range 0-100 GU)

Standards

ISO 2813; ASTM D523; ASTM D2457; ASTM C584; AS 1580 (602.2); BS 3900 D5; DIN 67530; JIS Z 8741; ISO 7668; MFT 30064 (except 45˚ angle)

Scope Of Supply

TQC Sheen Glossmeter:

- 2 AA type batteries
- Plastic carrying case
- Screwdriver for battery compartment
- TQC Sheen Ideal Finish Analysis
- software is downloadable
- Micro fibre cleaning towel
- USB cable
- Calibration certificate

What our customers say

"For many years, we have been a user of laboratory equipment under the TQC Sheen brand for coating tests. Many of our customers appreciate the TQC Sheen brand equipment, because it is world-class apparatus that they know and use in their laboratories. Excellent technical contact, perfect customer service and fast order processing time are undoubtedly additional advantages that determine the choice of TQC Sheen as our permanent supplier of laboratory equipment today and in the future".

Artur Palasz PHD
R&D Director
Spektrochem Paint Laboratory

Get in touch

Find out more about how we can support your unique needs and get in touch today.

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